Mary Barnas Pomeroy

Favorite Wildflowers Of the West Coast

Portrayed on the Monterey Peninsula

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Park Place Publications
Pacific Grove, California

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To my family.

Also to the young people growing up in this age

of intensified mechanization and artifice:

To keep them in tune with our beautiful earth,

They will need wildflowers to speak to their hearts.

Preface

On a bright morning, Mary Pomeroy and I climbed a high mesa and looked down together on our world: a peaceful valley, not far from the Pacific, and that never far in thought and inspiration. We talked of our love for both sea and valley, and of the challenge of communicating that love via art. That was a long time ago, but we have always looked out of the same window at life—had the same enthusiasm for the view. We met early on in family life, and our children grew up side by side. Now in the best of relationships, friendship is multiplied.

An artist by talent, by preference, by heredity, by any definition, Mary Barnas Pomeroy brings all to fruition in the present collection of coastal wildflowers. Beginning with the exotic flora of Ecuador, she has painted and drawn plant life all her varied art career. After leaving Germany, where she was born, with a later remove to Czechoslovakia, her artist father, Carl Barnas, took his family to South America in 1936. There the brilliant jungles and high Andes inspired the painting of Ecuadorian wildflowers and fungi, as well as several illustrated articles on her life in Ecuador. While there she also worked for the Central University in Quito as an illustrator in the Geology Department, and as an illustrator for the International Petroleum Company in Guayaquil.

Coming to the States in 1946 for further art studies, Mary attended The Academy of Fine Arts in Philadelphia, Pennsylvania. Then in 1948, the West beckoned, and a family friend facilitated a move to Berkeley, California, where Mary quickly became a popular illustrator in the Botany Department of the University of California. Three hundred plates were produced for A Flora of the Marshes of California, published by the University Press in 1957. The author, Dr. Herbert L. Mason, wrote: "It was my very great fortune that Mary Barnas Pomeroy sketched most of the illustrations in my Flora of The Marshes. She displayed a keen sensitivity for differentiating characters of closely related plants, and she searched diligently to test their faithfulness. Details of many of the descriptions that I supplied were challenged by her careful comparative work. In so doing, she revealed herself as one of the outstanding botanical illustrators of the world."

Mary is represented in the permanent collection of the Hunt Institute for Botanical Documentation in Pittsburgh, Pennsylvania.

Marriage to fellow-artist Frederick Pomeroy brought Mary to the Monterey Peninsula to make their home, where the extraordinary scenery of the area has caught and held their artistic interest. Prize-winning work and wide acquisition has been their reward for an enduring ability to capture the many faces of land and sea.

But it is Mary's strong response to the beautiful complexity of Nature, which sets her apart. Her work inhabits the coveted space between art and science, taking the best from each to make us really experience her subjects. We have been in the presence of these flowers, but have we observed? She has, and takes us with her.

Like truth, a faithful rendering needs no embellishment. On the contrary, the astonishing beauty of these wildflowers can only be revealed by utmost accuracy, presented to us by an artist. There is love of Nature at its purest here. As Mary expresses it: "I always feel that this work is somehow done for me: I was led to sit still and realize it."

Our paths have diverged physically, but our thoughts still sit together, and we both reach out to the natural world. The realization that it is a last refuge sharpens appreciation. What we do not know intimately, we cannot treasure. These flowers—familiar now, but for how long? —ask our protection with the language Mary Pomeroy speaks so eloquently.

Alice Mehdy Peden

Santa Fe, New Mexico

Wildflowers: My World

I stand at the edge of a steep coastal bluff south of Carmel. A tangy sea breeze blows my hair and refreshes me to the soul. Below me extends a long stretch of bright beach. The Pacific Ocean moves in upon it with impressive turquoise waves that topple in whitest foam, and then wash back again. With its coming and going, it sets an atmosphere of infinite succession.

Towards the horizon, its rich lapis blue contrasts with clearest luminosity of sky. Decorative patterns of puffy white cumulus clouds create a heightened sense of perspective. It is an incomparable May morning, alive with color and movement.

Only one person walks below me on the beach—a tiny figure nearly out of sight now. Looking all about me on the level on which I stand, I feel totally companioned by the multitudes of wildflowers in cozy groups that intermingle with coastal scrub, thus forming a carpet as of colorful stitchery.

I know that fascinating small creatures live inside and underneath this covering—ground squirrels, rabbits, mice, birds and lizards. On the surface, bees and butterflies, other insects and sometimes hummingbirds, assure in a measure the continuity of this magic carpet with their pollinating activities.

This is an established habitat of many decades—perhaps even centuries—yet having undergone and continually experiencing changes. Like the tides of the sea, some of its plants and animals succeed while others recede in distribution. Then some years later, this may be reversed. Climatic changes and the intrusion of non-natives cause part of such fluctuations. Mankind's easy access to all parts of the globe now brings continuous interchange of species that is difficult to curb.

As I walk along the meandering cliff trail through so much beauty, I also take in the grandeur of the background coast range mountains. Partially sagebrush-covered, their grassy slopes rise steeply, divided by canyons. These likewise form typical habitats with their groves of redwoods, alders, laurels, cottonwoods and willows. Clumps of Monterey pines and cypress here and there paint pleasing dark shapes. Some old ranch buildings blend into the scene.

Again I pause and turn to drink in that clean air on the sea wind. Not only does it carry the sound of the surging waves, and salty, sea-weedy smells, but also the spicy and sweet aromas of this living floral carpet all around me.

In reminiscing about the forty years of my knowing the coast with all its special places, I realize how every flower species has become a friend. Each time we meet, it is a delight. Usually something new about it is being found out on every hike. I admire the hardiness of the numerous apparently delicate species as they tenaciously resist the often-icy blasts of storms and the desiccation of hot dry years. When everything seems to have died after such extremes, the next good rain will cause fresh leaves and blooming parts to reappear. Thanks to the deep, perennial root systems of many plants, this miracle is explained. And the abundance of dormant seeds quickly sprouts new growth as well.

When in 1947 I came to the Monterey

Peninsula, nearly all of it looked like a fairyland. Its dense pine forests, wildflower meadows, dunes and rocky shores and the turquoise and blue sea with its white-crested waves made the all-over picture.

All the wildflowers were new to me, and I began to learn their names. One plant I found almost my favorite: Its succulent erect leaves sprouted from thick trailing stems. Sometimes it formed small mats. In the spring, it opened large, pale-yellow, multi-segmented blooms, like sea anemones washed ashore. It also came with magenta flowers. I loved the way it reached over the dunes with often salmon-orange or near crimson hanging branches. Little did I foresee—nor could anyone at the time—that this gorgeous hardy plant would conquer nearly all our dunes and coastlands and all but choke the majority of our native shore wildflowers.

Of course, by now most of us know that these intruders are the sea fig, Hottentot fig, and ice plant. The latter is more of the South, but its name is frequently used for all these members of the genus *Mesembryanthemum* (or now *Carpobrotus*). Their usefulness in stabilizing the sand dunes and preventing erosion of steep banks, led to their cultivation along hundreds of miles of central California highways, and in parks and gardens. Their success derives from their drought resistance; propagation is by cuttings as well as seeds. Their cable-like roots are incredibly tough.

How it got started on the California coast is not known. Being native in the southern hemisphere, in Chile and South Africa, did it come with seafaring men of those early days? I like to speculate on a couple of incognito seeds stowed away in somebody's clothes or an animal's fur. Recent research has revealed the likelihood of merchant ships from Chile having stopped in Monterey and there dumped some ballast; this must have been sand containing ice plant fruits with mature seeds (beach apples), or mere fragments of the plant.

I mention this intruder first, because it has changed so many portions of the coast to the point where few native wildflowers can hold their own; they have been literally run over and the soil has turned too acid for them. Now, solid carpets of ice plant replace the blooming meadows of the earlier years. That it is here to stay seems irreversible, unless nature in her own way—possibly with a severe freeze—puts a stop to it.

Man's attempt to control it bears fruit in the Asilomar dunes and other parts of the Pacific Grove waterfront. Replanting of native species looks promising. Also at Point Lobos State Preserve, ice plant-infested areas have been cleared, letting the typical vegetation take its hold. But it will take continuous maintenance to halt the culprit,

As I walk my trail, I'm delighted to see no ice plants in this particular expanse of grassland and scrub. I must enjoy the perfection of the original composition. This is the Pacific coast flora in full spring bloom: sky-blue California lilac; paintbrushes ranging from lemon-yellow, salmon to orange to glowing reds; pearly-everlasting just opening; pinkish-golden bush monkey flowers;

California poppies and their beach varieties; lavender and purple iris; sand verbenas—pink and yellow; low sky lupines and multicolored bush lupines; yellow evening primroses. Yolk-yellow lizard tail profusion, and that of pink-cream-and-orange wild buckwheat pompons appears a bit later, in June and July, but I can already see them budding in their lavishly foliaged plants.

These are just a few. Leaf through the following pages, and soon you will know and recognize them easily.

I have also included several other introduced species that are successful but do not challenge the natives quite like the ice plants. They are part of the present picture and should be acknowledged like we recognize the countless foreigners of many races and nationalities in this great country. Throughout history, change has taken place in every department of life. It cannot be prevented and is natural and healthy. Only, it should not be brought about by force, and not for selfish purposes.

Here my rambling thoughts suggest the desirability for every person on the face of this earth to travel widely, to see and experience beauty and ugliness, and then to study the details of that which to most of us comprises 'natural beauty'—such as we have here on the Pacific coast; and also, looking back a few decades or a century, view the now truly historical works of our early local painters. During my first visits to Pacific Grove, I had the fortune of coming to live next door to Albert Thomas De Rome (1885-1959) who has passionately depicted our coastal magnificence the way it was then, in oils and watercolors. Thus I saw the real land—and seascapes—just with coverings of native wildflowers, bushes and trees. (Yet secretly, there was already the inconspicuous presence of *Mesembryanthemum*…)

Other examples live in the paintings of Ferdinand Burgdorff (1881-1975). An outstanding work by him hangs in the Monterey Peninsula Community Hospital. It shows an unbroken blue lupine drift by the rocks and sea along the 17-mile drive area not far from Point Joe.

Burgdorff painted many dune scenes with both the yellow and blue forms of what could be called 'rainbow' bush lupine. This occurs in any imaginable combination of these colors, with pinks and lavenders mixed in. It makes a magic picture, and I'm happy to say that during favorable years, these bushes still put on impressive shows. Although they are said to be aliens, we don't mind this so much because they are established like natives and under control. And they are indeed exquisite when in their prime.

As I stand still now, letting my gaze sweep over the bright land and seascape, I feel optimistic in perceiving mankind's gradual awakening to their recognition of new old values that will always remain—like the incredible beauty and importance of all living things. With it comes hopefully the desire and perhaps necessity of returning to simpler ways of life, ways of connectedness to nature by which we can enjoy her instead of wasting and destroying her.

My mental vision reaches back to those

early impressions: I see the Pacific Grove waterfront with wildflower drifts, starting just beyond Lovers Point. A narrow trail meandered through them by the lighthouse grounds all the way to the Asilomar beach. From there, one could see the fifty-foot-high snow-white sand dunes within the 17-mile drive area. They were color-patched with native flowers and crowned with wind-sculpted pines that seemed at the point of running for shelter into the grassy little ravines. But these dunes were gradually carried away—trainload after trainload of their pure white sand—to be made into glass. Now the Del Monte Sand Plant is also gone, and an extravagant establishment stands in its place with innumerable condominiums having sprouted around it like mushrooms. It is the Spanish Bay Resort.

Those special people who can afford to stay there, most likely have no inkling of the unique natural wonder that identified this place until only a few decades ago. To them, it must be beautiful the way it looks now. It is, of course, all man-made, artificial. No blame for this change goes to anyone in particular; business-minded groups cooperate to develop areas 'en gros.' It is part of our modern, so-called progressive, world. It seems that the time is ripe to proceed more slowly, cautiously, compassionately…

Fortunately, a covering of native dune flowers has been successfully planted adjacent to the attractive boardwalk way, which is enjoyed also by visitors who don't live at the resort. So we can count our blessings.

As I walk in the living glory of this day and age, I see sparkling evidence that life in all its forms renews itself in a measure, no matter what may occur. There is tenacity in nature.

The purpose of this book is to share my love for these gorgeous wildflowers and blooming scrub that dress our Pacific coast with strength and splendor. Each species fills its particular place in nature's plan. Therefore, let us all be thoughtful how we can protect and preserve, preventing unnecessary carelessness and destruction.

I chose to portray all my favorites, the showy and more modest ones that most everyone is likely to discover for him or herself. Also a few small but rare of unusual ones. I arranged them not in botanical order, but the way they look pleasing as pairs of species often found side by side, or where possible, of those of the same genus or family. Their proper seasonal appearance is also considered, although up and down the coast this naturally varies. I gauged it to the Monterey area. I also sprinkled in several select flowers occurring a few miles inland in our coast ranges; sometimes they venture closer to the shore.

This is a limited collection—not a botany book in the usual sense. There are many such as can be found in the bibliography in back. It is a book of botanical art that brings out macroscopic features for quick and easy recognition. It is designed as a tool for re-evaluation of what it is that draws us to a flower, a tree, a bird, frog, a tiny insect, or any living thing. Is it not the magical life force animating the chain of Nature's infinite forms and settings? All these are purposefully created and composed and can teach us many lessons in aesthetics and economy. They demand our respect.

May many people from all walks of life enjoy this book!

MBP

Favorite Wildflowers Of the West Coast

Portrayed on the Monterey Peninsula

Color Plates

PLATE #1 *Sanicula arctopoides (UMBEL.)* Footsteps of Spring.....*16*

PLATE #2 *Oenothera ovata (ONAGR.)* Coast Suncup *18*

PLATE #3 *Zigadenus fremontii (LIL.)* Star Lily *20*

PLATE #4 *Iris douglasiana (IRID.)* Douglas' Iris.....*22*

PLATE #5 *Oxalis oregana (OXAL.)* Redwood Sorrel *24*

PLATE #6 *Oxalis pes-caprae (OXAL.)* Bermuda Buttercup* *26*

PLATE #7 *Eschscholzia californica var. maritima (PAP.)* Seaside Poppy.....*28*

PLATE #8 *Erigeron glaucus (AST.)* Seaside Daisy *30*

PLATE #9 *Erysimum menziesii (BRASS.) Menzies' Wallflower* *32*

PLATE #10 *Lupinus tidestromii (FAB.)* Tidestrom's Lupine *34*

PLATE #11 *Calochortus uniflorus (LIL.)* Large-flowered Mariposa Lily *36*

PLATE #12 *Armeria maritima var. californica (PLUMB.)* Wild Thrift *38*

PLATE #13 *Oenothera cheiranthifolia (ONAGR.)* Dune Suncup *40*

PLATE #14 * *Cakile maritima (BRASS.)* European Sea Rocket*.....*42*

PLATE #15 *Oenothera hookeri (ONAGR.)* Hooker's Evening Primrose *44*

PLATE #16 *Clarkia bottae (ONAGR.)* Farewell to Spring.....*46*

PLATE #17 * *Brassica campestris (BRASS.)* Field Mustard * *48*

PLATE #18 * *Raphanus sativus (BRASS.)* Wild Radish* *50*

PLATE #19 * *Carpobrotus chilense—C.edule (AIZ.)* Sea* and Hottentot Fig* *52*

PLATE #20 *Dudleya farinosa (CRASSUL.)* Bluff Lettuce *54*

PLATE #21 *Abronia latifolia (NYCTAG.)* Yellow Sand Verbena.....*56*

PLATE #22 *Abronia umbellata (NYCTAG.)* Pink Sand Verbena *58*

PLATE #23 *Ceanothus thyrsiflorus var. repens (RHAMN.)* Blue Brush *60*
PLATE #24 *Mimulus aurantiacus (SCROPH.)* Bush Monkey Flower *62*
PLATE #25 *Astragalus nuttallii (FAB.)* Rattle Weed.....*64*
PLATE #26 *Castilleja latifolia (SCROPH.)* Monterey Paintbrush.....66
PLATE #27 *Corethrogyne californica (AST.)* Beach Aster 68
PLATE #28 *Gilia tenuiflora ssp. arenaria (POLEM.)* Sand or Dune Gilia.....70
PLATE #29 *Eriophyllum staechadifolium (AST.)* Lizard Tail *72*
PLATE #30 *Achillea millefolium (AST.)* Common Yarrow.....*74*
PLATE #31 *Lupinus arboreus (FAB.)* Bush Lupine, yellow-pink form *76*
PLATE #32 *Lupinus arboreus (FAB.)* Bush Lupine, purple-yellow form *78*
PLATE #33 *Lupinus succulentus (FAB.)* Succulent Lupine.....*80*
PLATE #34 *Convolvulus soldanella (CONV.)* Beach Morning Glory *82*
PLATE #35 *Lathyrus littoralis (FAB.)* Silky Beach Pea.....*84*
PLATE #36 *Cryptantha leiocarpa (BORAG.)* Coast Cryptantha *86*
PLATE #37 *Dentaria californica (BRASS.)* Milk Maids, Big Sur River *88*
PLATE #38 *Dentaria californica (BRASS.)* Milk Maids, C.V. oak hills.....*90*
PLATE #39 *Fritillaria lanceolata (LIL.)* Mission Bells.....*92*
PLATE #40 *Calochortus albus (LIL.)* Fairy Lanterns.....*94*
PLATE #41 *Chlorogalum pomeridianum (LIL.)* Soap Plant *96*
PLATE #42 *Sidalcea malvaeflora (MALV.)* Checker Bloom *98*
PLATE #43 *Amsinckia intermedia (BORAG.)* Common Fiddleneck *100*
PLATE #44 *Sisyrinchium bellum (IRID.)* California Blue-Eyed Grass.....*102*
PLATE #45 *Cirsium occidentale (AST.)* Cobweb Thistle.....*104*
PLATE #46 *Stachys bullata (LAB.)* California Hedge Nettle *106*
PLATE #47 *Mimulus guttatus (SCROPH.)* Common Monkey Flower *108*

PLATE #48 *Potentilla egedii var.grandis (ROS.)* Pacific Silverweed *110*
PLATE #49 *Trifolium wormskjoldii (FAB.)* Cow Clover *112*
PLATE #50 *Agoseris apargioides (AST.)* Seaside Dandelion *114*
PLATE #51 *Haplopappus ericoides (AST.)* Mock Heather *116*
PLATE #52 *Eriogonum parvifolium (POLYG.)* Wild Buckwheat.....*118*
PLATE #53 *Franseria chamissonis ssp.bipinnatisecta (AST.)* Beach Bur *120*
PLATE #54 *Artemisia pycnocephala (AST.)* Beach Sagewort.....*122*
PLATE #55 *Hemizonia corymbosa (AST.)* Coast Tarweed.....*124*
PLATE #56 *Grindelia latifolia ssp. platyphylla (AST.)* Coastal Gumplant.....*126*
PLATE #57 *Brodiaea lutea (LIL.)* Golden Brodiaea or Pretty Face *128*
PLATE #58 *Brodiaea pulchella (LIL.)* Common Brodiaea or Blue Dicks.....*130*
PLATE #59 *Collinsia heterophylla (SCROPH.)* Purple Chinese Houses.....*132*
PLATE #60 *Meconella linearis var.pulchella (PAP.)* Narrow-leaved M. *134*
PLATE #61 *Calochortus luteus (LIL.)* Yellow Mariposa Lily.....*136*
PLATE #62 *Madia elegans (AST.)* Elegant Tarweed.....*138*
PLATE #63 *Erysimum capitatum (BRASS.)* Douglas Wallflower.....*140*
PLATE #64 *Epilobium californica (ONAGR.)* California Fuchsia.....*142*

* Introduced plant; non-native

Plate #1

Sanicula arctopoides — *APIACEAE or UMBELLIFERAE*

Footsteps of Spring, Yellow Mats or Sanicle — PARSLEY FAMILY

Coastal southern California to Washington, below 1000' — Feb-May

Approximately in March, this plant is in the stage best described by its common names—pale yellow-green mats, flat as footprints, marking the young meadows. The deeply cleft and toothed, three-part leaves lie flat on the ground, forming a rosette. This contains numerous yellow flower heads surrounded by pale-yellow bractlets, which make them resemble multi-rayed stars that are gradually lifted above ground level. Now it becomes evident that here is indeed a member of the UMBELLIFERAE with its countless genera and species of umbrella-like plants we all know from our gardens: carrots, anise, parsley, dill and parsnips. The poisonous hemlock also belongs here, and there is even a poisonous *sanicle (S. bipinnata).* Our footsteps-of-spring is said to have, instead, healing qualities.

These lovely yellow mats grow from perennial roots on coastal bluffs, in sandy flats and meadows, often in the company of Suncups (2). They favor the various meadows of Point Lobos. The young plant portrayed here was done in the lofty, sunny part of Carmel Meadows, overlooking San Jose Bay and Point Lobos. The ocean was the deep blue and turquoise of the yet cold season. But spring had left her golden footprints.

Plate #2

Oenothera (Camissonia) ovata — *ONAGRACEAE*

Coast Sun Cup or Golden Eggs — EVENING PRIMROSE FAMILY

San Luis Obispo County, CA to southern Oregon — Feb-June

If common names speak, here something delicious on a platter or bowl is suggested. Who wouldn't stop to marvel at a group of these bright-green leaf rosettes on the ground, filled with clear-lemon-yellow blossoms—themselves like cups when first opened. A feast for the eye!

Each of the four petals is roundish with nearly pointed tip, often with irregular folds or wrinkles remaining. Eight pale-yellow stamens are neatly placed around the globe-shaped stigma on the thin style. The 2"-4" long 'stem' bearing this fragile blossom, is actually a slender calyx-tube with the ovary in its very base. No floral stem below it.

Each lance-ovate leaf of the rosette has a prominent pale central vein. On the reverse side, all veins have fine, short hairs (pubescence), and so does the purplish-red-blotched, slightly toothed, wavy margin of the blade. The plant rests on its stronghold—a long taproot.

Grassy spring meadows are the ideal habitat of the Sun Cup—close to the ocean and a bit out of the wind. Often the shelter of a shrub will cause a rosette to reach 10" across. It is as yet abundant in the Carmel Meadows and the various meadows of Point Lobos. One of the early spring beauties, along with footstep-of-spring (1).

Plate #3

Zigadenus fremontii — *LILIACEAE*

Star Lily or Star Zigadene — LILY FAMILY

California and southern Oregon Coast Ranges — Jan-July

Here on the Monterey Peninsula, the star lily is an 'early riser': its bright green basal leaves may appear in December or January, and soon after, also its flowering stalk. In open grasslands this remains short, while on wooded slopes or among coastal scrub it stretches two to three feet high. In true lily fashion, it sprouts from a bulb. Its creased linear leaves extend as graceful arches.

The young flowering head resembles a pale green-yellow pagoda top with the first creamy-white star-blossoms opening around its edge. Gradually it becomes a pyramid of neatly spaced-apart open flowers on individual flower stems subtended by pointed bracts. Sometimes the main stalk branches with several smaller flowering heads.

Each bloom has three narrow petals and three wider sepals—all six with pointed tips and basal yellow glands. The six yellow anthers and the green ovary with three white styles contribute to the star design. The stamens are shorter than the petals—an important feature when comparing this species with the death camas (*Z. venenosus*) in which they are longer.

The name Zigadenus has to do with the glands at the base of the six-perianth segments; in the first discovered species, these were paired; *'fremontii'* honors the American Explorer John C. Fremont.

This is a common flower along the coast and in the hills. It even climbs up to 3500'. It may be found in the northern Sierra Nevada as well as in Baja California. I revel in their early showing at Point Lobos—their gleaming star-heads swaying in front of impressive January seas.

All *zigadenes* supposedly are suspect—poisonous to man and animals. The latter should know better than to eat them, and our privilege and duty is to protect these and all wildflowers—beneficial, harmless or toxic. All have a purpose.

Plate #4

Iris douglasiana — *IRIDACEAE*

Douglas Iris or Blue Flag — IRIS FAMILY

Santa Barbara County to Oregon — Feb-May

The IRIS FAMILY—known and loved by most everyone—offers a species very typical for coastal California: the Douglas iris. Its name instantly calls forth an image of bunches of long, elegantly curving leaf blades—like dark-green silken ribbons. In the midst of these, 1'-2' tall floral stems rise—simple or branched—to display their lavender to deep-purple blossoms of the three-parted iris design with all its intricacies. The outer three segments bear rose-purple venations set in white or pale gold—much like those of butterfly wings.

This iris hybridizes with other iris species. Perhaps this is the reason for the great variability in its colorings: it occurs in white, in cream or soft yellow, in delicate blue besides the lavender and glowing red-purple—rainbow colors indeed. This is what 'iris' means in Greek: rainbow.

It is one of the earliest spring flowers starting our colorful parade of favorites—on Point Lobos State Preserve, coastal meadows, bluffs and canyons around the Carmel Riviera, the Highlands, Big Sur, and higher on wooded hillsides. It is not afraid of blooming on exposed cliffs, keeping low amid coastal scrub.

David Douglas, the Scottish botanist whose name it bears, did extensive collecting in California as early as the 1830's. He would be excited to know that his exquisite flower still decorates the coastal lands of California and Oregon, and that it is being cultivated in many gardens.

Plate #5

Oxalis oregana — *OXALIDACEAE*

Redwood Sorrel — WOOD SORREL FAMILY

Monterey County, California to Washington to Olympic Mountains — April-Sept

Because this wildflower is a forever companion of the Coast Redwoods, descending into the coastal canyons often to very close to the Pacific, it is a 'must' in this book. Its delicate nature—silky white or pale pink flowers with lavender to rose-purple venations, its large, velvety dark-green leaves that fold their three heart-shaped blades downward at night—is adapted to the shade of tall forest trees. From mazes of woody rootstocks spring leaf clusters with flower stalks unfolding in succession. These form the elegant carpeting of Redwood and Douglas Fir forest floors.

Thomas Nuttall first discovered this sorrel in 1834 in Oregon. Hence its specific name: *oregana*. '*Oxalis*' refers to the sharp or sour juice of this genus. *"'Sorrel'* likewise.

The reddish color, especially of the lower half of the leaf stalks is typical as is their brown hairiness. Each leaflet usually bears a paler central marking on its smooth upper side. The underneath side is pale green and silky-hairy.

The blossoms generally have a yellow or orange fleck near the base of each of their five petals. There are a pistil with five styles, and five short and five long stamens in each flower.

One form of this species—found under the Muir Woods Redwoods—has rich rose-purple blooms. Our picture here portrays inhabitants of Soberanes Creek Canyon.

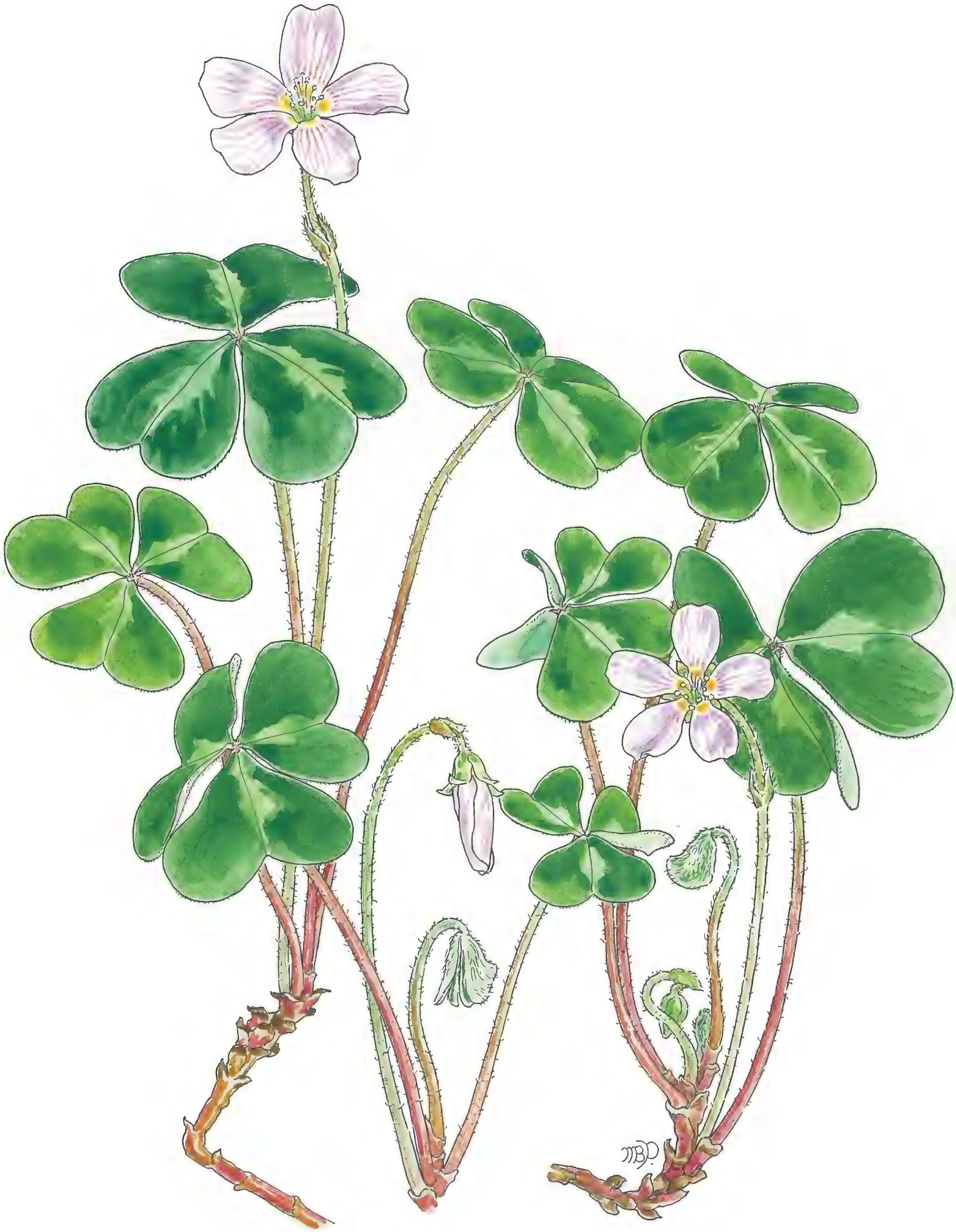

Plate #6

Oxalis pes-caprae — *OXALIDACEAE*

Bermuda Sorrel or Bermuda Buttercup* — WOOD SORREL FAMILY

Pacific States, coast and spreading inland — Nov-March

Among the many gorgeous spring wildflowers, this is one of my favorites. It starts blooming well ahead of others, often in the winter (our commonly mild rainy season), January-February bringing it to its peak. It is an alien introduced from South Africa that has most successfully established itself on the Monterey Peninsula. With its luminous yellow, it adorns sidewalks, garden patches and park areas of Monterey, Pacific Grove and Carmel. It also thrives along the seashore's open meadows, or cliffs where ice cold winds rage. Often it grows out from covers of ice plants, which, in this case, serve to protect its small, scaly bulbs. Was this flower introduced with the sea fig? We can only guess.

The leaf stalks and flower stems are smooth, straight or gracefully curved. Each leafstalk's three deeply cleft leaflets are penciled with brown markings. The floral stem bears a cluster of intense lemon yellow, trumpet-shaped, five-petaled blooms.

As for its name: *Oxalis* comes from the Greek '*oxus*,' meaning 'sharp.' We know why from experience—having nibbled at various other 'sour grasses.' *'Pes-caprae'* of course refers to the cloven goat hoof shape of each broad leaflet. 'Buttercup' is certainly misleading, since sorrels are not related to buttercups. It is better to call it now 'Bermuda Sorrel.' Common names are unreliable.

This sorrel is widespread as 'weed' in artichoke and other large fields, in orchards and waste places at low elevations. In its profusion, it makes a delightful picture of early spring. Like wild radish (18), mustard (17), ice plants (19, 20) and others, it is a well-adapted non-native—never to be gotten rid of. I'm glad of this. Those yellow fields are part of our present-day scene.

Plate #7

Eschscholzia californica var. maritime — *PAPAVERACEAE*

Seaside or Beach Poppy — POPPY FAMILY

Monterey County to Santa Barbara County — Feb-Oct

Long live our California State Flower: the California Poppy. It scientific generic name is for Dr. J.F. Eschscholz (1793-1831), the surgeon and naturalist with Russian expeditions to the West Coast (1816, '24). This flower's fiery brilliance must have been to him 'love at first sight.' No doubt, he discovered also the great variability of these poppy clusters or drifts. Those on the dunes and on coastal cliffs tend to be hardier plants with 'frosted,' densely divided leaves; their flowers lemon-yellow with four orange diamond-shaped blotches—one to each of the four petals—surrounding the stamens, rather than solid orange.

This here-illustrated variety is now named Beach Poppy. Its distribution is described as reaching from Santa Barbara to Monterey County. I wish to add that I have found gorgeous robust, richly blooming plants in the dunes of Point Reyes. I like to think that some wildflowers are spreading instead of diminishing. Our State and Regional Parks offer fine opportunities for this through the protection of ecological systems as well as the visiting factor: who knows, who or what introduces which seeds? Our world is more and more one of interchange. Our cover design shows a beach poppy variety with larger orange blotches.

I am charmed by one extraordinary feature of California poppies—not shown on this picture: here, the activating moment, that of the bud's opening, has already taken place—the two calyx lobes that are fused into a 'dunce cap,' sever from their basal disk as the blossom unfurls. Thereby the little cap is pushed off. It is fun to observe this for yourselves!

The long seed capsules, likewise, are remarkable: after ripening in the warm sunshine, they suddenly split into two slender 'crescents,' scattering the tiny seeds.

The flowers of all California poppy species or varieties tend to be large during their full bloom season, and often but half that size during late summer and autumn drought. Poppies may be found blooming almost throughout the year. Their orange flames tell of silent perennial, (mostly biennial) growth.

Poppies open wide only in full sunshine. They close up under gray skies and in rain, and always in the late afternoon. Wise planning!

Plate #8

Erigeron glaucus
Seaside Daisy
California and Oregon coasts

ASTERACEAE COMPOSITAE
SUNFLOWER FAMILY
April-Aug

'Early Old Man' or "Old Man in the Spring' give the meaning of this flower's Greek name *Erigeron*. The specific definition *glaucus* says 'frosted,' describing the more or less fuzzy covering on its stems and leaves. Truly, it ventures forth early often among rocky settings, on windswept bluffs, or in dunes, coastal meadows and pine forests. Its fullest bloom comes in April-May with huge beds of them standing foot-high or more, their lavender, yellow-centered daisy faces smiling at the sun. They also occur in white, or a deeper blue-purple. About 100 ray flowers compose each daisy head.

This sturdy daisy is a perennial, as yet widespread and typical in unaltered coastal habitats of the Monterey Peninsula. It does not thrive away from the sea. But in 1815, it was grown in English gardens and named and described over there. It remains a mystery who introduced it.

Plate #9

Erysimum menziesii — *BRASSICACEAE CRUCIFERAE*

Menzies' Wallflower — MUSTARD FAMILY

Point Pinos, Asilomar, Pacific Grove, California — February

Scattered along Mendocino coast — March-June

Every garden lover knows a wallflower as a favorite because of its heady perfume and brilliant yellow, orange, pink or purple colorings. This particular wild species forms a globe-shaped or slightly elongated head of lemon-to-yolk-yellow flowers—each one of the typical four-segmented MUSTARD FAMILY design.

Most wallflowers make attractive backdrops against garden walls or fences, but Menzies' wallflower has a short stem that needs no supporting devices. It may form several stems from its long, perennial taproot. The narrow leaves on the flowering stem are shorter than those of the basal rosette which have long, thin stalks ending in rhomboid, spatula-to-inverted-spoon-shaped blades. All the leaves arch shallowly downward. They often have inconspicuous, far-apart teeth along their edges.

These dwarf wallflowers—being rare now in the Pacific Grove dunes—are being pampered along by state ecologists, replanted from seed and protected by inverted wire baskets to prevent the deer from feasting on them.

Toward the end of their blooming season, many heads show the upward-reaching, or later, stiffly outward-bristling, long, thin, and flattened seedpods—a sight as astonishing as the rounded luminous-yellow floral heads at their freshest, dotting the white Asilomar dunes as early as February.

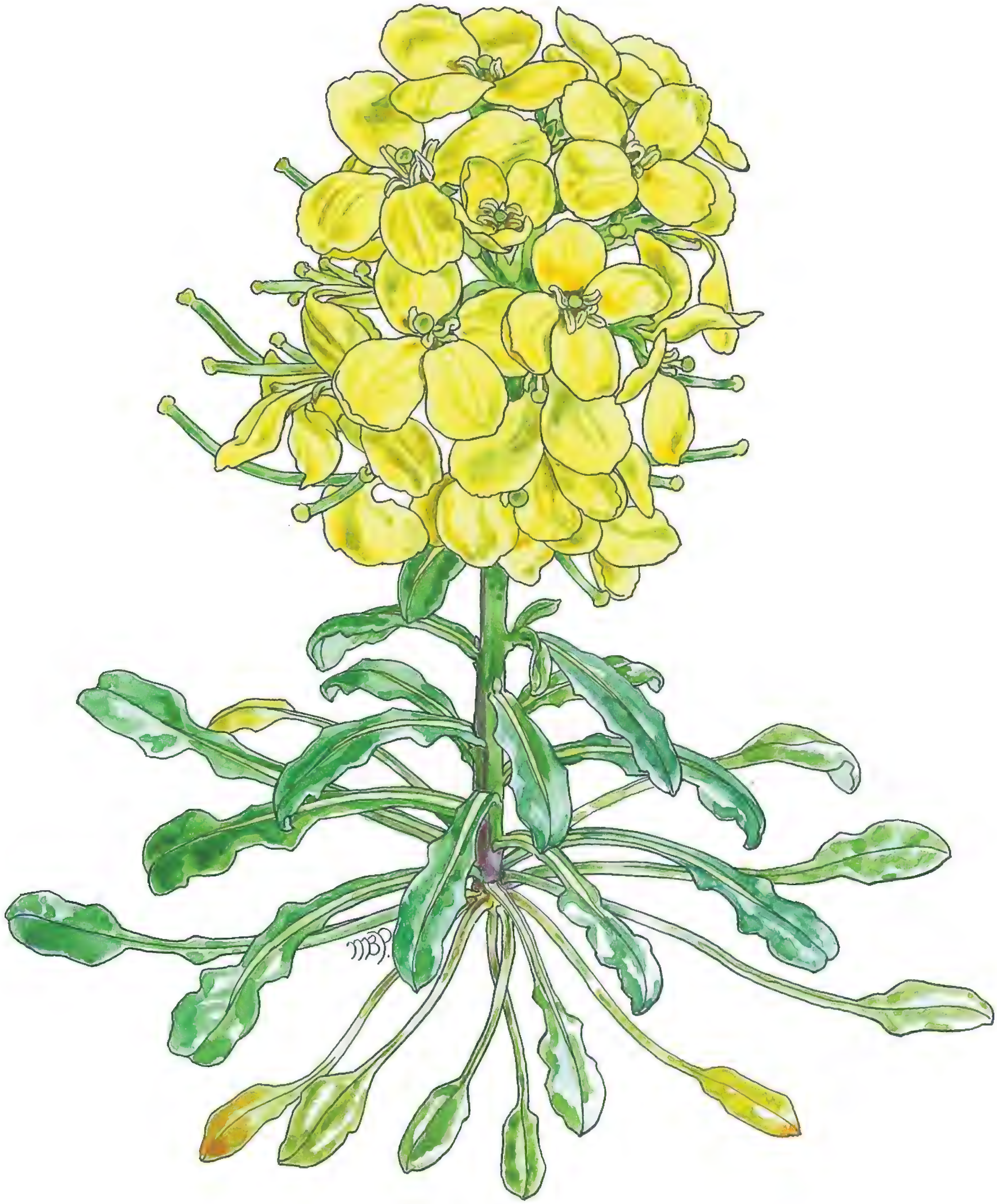

Plate #10

Lupinus tidestromii — *FABACEAE LEGUMINOSAE*

Tidestrom's Lupine — BEAN or PEA FAMILY

Monterey Peninsula; Point Reyes, California — March-June

Of the numerous low-growing lupines, this one is totally recumbent. The invisible yellow roots produce a tangle of pale greenish, sometimes rosy, flattened stems through the sand with leaf shoots and flowering stalks clinging close to the ground. Every part of the plant, excepting the flower petals, is decked with short hairs. The leaves consist of slender petioles with three to five leaflets each—often of similar length as the former. The trough-like, sharp-tipped leaflets have a silvery cast; in the sun, they shine like the metal itself.

The blossoms are lavender-blue with white banners—yellowish below and laterally patched with lavender. One flower head usually consists of several whorls of five flowers each. The spent ones turn pinkish-violet while those of the whorl above them open and peak. On top, more buds are waiting.

It is a little gem on the list of endangered species. The only areas of the Monterey Peninsula where this native still persists, are the sand dunes of the Asilomar grounds, a few private properties toward Point Pinos, and here and there on the ocean side of Sunset Drive. Please, help protect this unique, rare lupine. Never step on silver mats; they are precious. Menzies' wallflower (9) with its golden crown is a companion in their quest for survival.

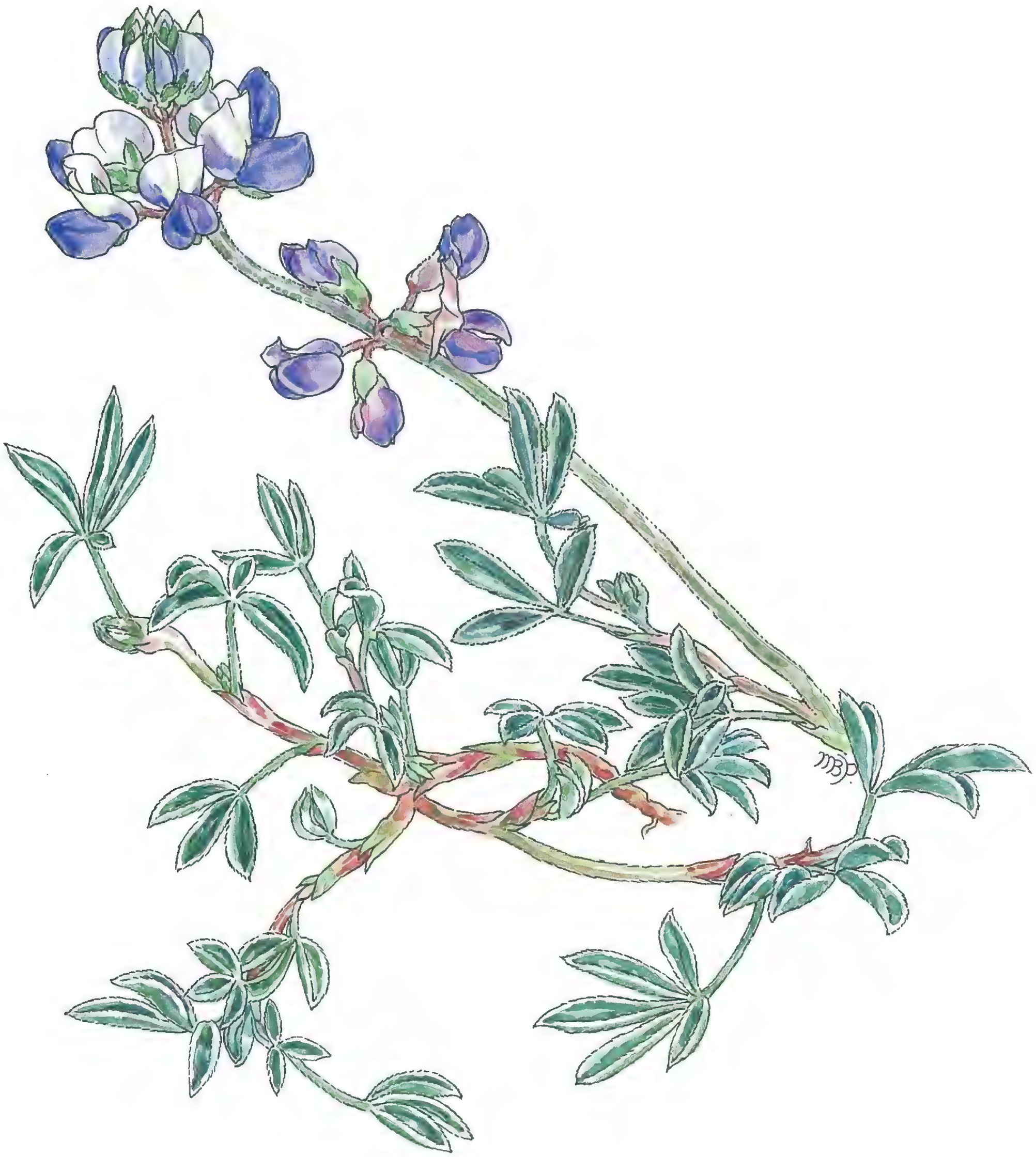

Plate #11

Calochortus uniflorus — *LILIACEAE*

Large-flowered Star Tulip or Mariposa Lily — LILY FAMILY

From Monterey County, CA to southwestern Oregon — April-June

Mariposa? Butterfly? A perfect name for any species of the open-bowl-flowered genus *Calochortus*. The 'one-flowered' species here is indeed butterfly-like when found in great numbers in a lush spring meadow with the wind blowing, perhaps among buttercups and checkerbloom mallows (42). *'Uniflorus'* states the fact that this species bears one single blossom atop each short stem, although as many as five of these may rise out of the same bulblet and bloom in succession.

The 'butterfly flowers' are quickly recognized by their three fan-shaped petals of soft, silvery-pink-lavender with a maroon-red spot at the base of each—soft hairiness inside. Six purple anthers, a superior ovary, and three pointed outer segments affirm 'LILY FAMILY.' The capsules are nodding.

The often reddish-tipped basal leaves extend well above the flower and go easily unnoticed in the grass. The blossom is the telltale. Point Lobos' Big Mound Meadow may well be the attractive species' southern-most habitat. Northward, it grows in the Coast Ranges, preferably wet meadows—those ever-rarer places touched by a fairy's wand.

Plate #12

Armria maritime var. californica — *PLUMBAGINACEAE*

Wild Thrift or Sea Pink — LEADWORT FAMILY

San Luis Obispo, CA to British Columbia; Santa Rosa, CA inland — March-Aug

Onion-like, though not of the LILY FAMILY, sea pinks rise on straight bare stems from linear-leafed basal rosettes. Each round pink flower head rests upon a double circle of pale-green to brownish-transparent bracts, the outer one or two of these being elongated and turned backward, clasping the stem. After the five-petaled corollas are shed, the heads resemble strawflowers (the name *Statyce* had previously been given to them).

April is a good time to find them in freshest bloom, in other places, May or even later. They thrive on exposed bluffs and beaches as well as in the coastal meadows. The Pacific Grove oceanfront boasted vast stands of these hardy flowers. We have reason to be optimistic about their spreading once again now that reconstructive measures are being carried out. Whaler's Cove and Mound Meadow areas of Point Lobos are rich with them. They also grow in England. True treasures of the seashore.

Plate #13

Oenothera or Camissonia cheiranthifolia *ONAGACEAE*

Dune Sun Cup or Beach (Evening) Primrose EVENING PRIMROSE FAMILY

From southern coastal California to southern Oregon April-Aug

The EVENING PRIMROSE FAMILY holds a collection of well-loved flowers like clarkia, fuchsia and evening primrose. The later genus earned its name because many of its species open their blossoms in the evening. Not so our beach primrose—it opens them in the morning. That's no doubt the reason why 'evening' has been omitted, leaving merely 'primrose,' although it has no relation to the true primrose *(Primula)*. With its luminous lemon-yellow, four-petaled blooms—each punctuated by a round central 'button' (the stigma) surrounded by eight stamens—it draws one's attention. These flowers open at the tip of each leafy branch that creeps flat on or underneath the sand from a lovely central leaf rosette. Thus it extends in all directions. The short-petioled leaves are soft grayish-green, sometimes turning reddish at the tips. The beautiful oval blades tend to turn slightly downwards.

The four short calyx lobes typically turn backward and up—the tips of their two pairs remaining fused. The spent flowers turn orange. In spite of its delicate appearance, this plant is hardy. Once established amid other stabilizing wildflower species, it is very useful in that capacity. A typical flower, even on the very beaches.

Plate #14

Cakile maritime — *BRASSICACEAE CRUCIFERAE*

Horned or European Sea Rocket * — MUSTARD FAMILY

From Monterey County to Mendocino County, California — May-Nov

Regardless of its being non-native but introduced from Europe, the lavender-blooming sea rocket is a typical plant on our white Carmel sands and up the coast. Its old Arabic name and modern-time reproductive mechanism draw our interest. It is a very successful colonizer of beaches and dunes—one of many 'pioneers.' It forms often richly branched, multi-leaved, round clumps of considerable size. The leaves are succulent, antler-like with deep indentations, and mostly alternate. The Indians made bread from the roots, and salad of the leaves, also of *C. edentula subsp. Californica*, the native one with hornless pods which occurs from San Diego to British Columbia.

The European sea rocket is fascinating because of its two-horned, two-jointed seed pod—the heavier segment remaining attached to the plant for immediate, close-by reproduction, while the lighter one blows away and often sails on the ocean for many days without losing the capacity of its seed to germinate once settled on sand. This dispersal method made these plants spread approximately 3000 km within forty years.

Plate #15

Oenothera hookeri ssp. montereyensis — *ONAGRACAE*

Hooker's Evening Primrose — EVENING PRIMROSE FAMILY

San Luis Obispo County to San Mateo County, California — June-Sept

This sturdy leafy plant catches the eye with its showy, pale-lemon-yellow, translucent flowers. Each blossom opens up from a very long, thin flower tube containing the fruiting portion on its base (inferior ovary). On its upper rim, the four slender, ribbon-like calyx lobes turn gracefully downward.

These flowers open in the late afternoon, bloom through the following morning, then wilt and turn orange to red. But plenty of buds wait in the floral spike above them to continue the show by opening at least three of their four-petaled wonders at a time.

'Oeno-thera' means 'wine scenting' in Greek. Such use had been made of the flesh root of an unknown related evening primrose. Our species here is a biennial. It grows erect to four feet tall, bushes out, loves moist places in seeps or canyons, or atop ocean cliffs. Who wouldn't want to be a butterfly lighting on such an exquisite perch?

These gorgeous evening primroses are widespread throughout the Coast Ranges of the southwestern states, even into the Sierra Nevada.

Plate #16

Clarkia bottae — *ONAGRACEAE*

Botta's Godetia, Hill Clarkia/Farewell-to-Spring — EVENING PRIMROSE FAMILY

Monterey County, California, coast and hills — May-July

This genus commemorates William Clark of the Lewis & Clark Expeditin (1804-1870), who first collected it (±1827) after reaching San Francisco as ship's doctor on the French ship HEROS. *'Godetia'* was an earlier name for some clarkias, but it proved impossible to make this distinction. However, that name lingers and may sometimes be confusing.

The other common names give vivid pictures—our hillsides and windy coastal meadows ablaze with these pink wonders, waving 'Farewell' to the cooler season, often from among drying-up grasses.

In spite of their delicate appearance—the slender stems and foliage, the pendent buds, four poppy-like, but lavender-pink, silken petals—they are in fact tough and drought-resistant. Unlike most evening primroses (of the same family) (15) that open in late afternoon, this clarkia's blossoms close to form a funnel in the evenings, to re-open on many successive days.

Typical are the four reddish sepals, turned up and to one side, commonly remaining fused as one spathe with two tips. The lower portion of the pink petals is whitish and tapers to a narrow base. The white stigma opens to a cross; the four inner stamens have cream pollen, the outer, taller, turquoise-blue. The green capsules have four red, longitudinal grooves when immature.

Hill clarkia is endemic to Monterey County. At Soberanes Point (Garrapata State Park), ice plant encroachment has reduced its stands. But in Point Lobos—Carmelo Meadow, Mound Meadow, and all along the open shore—it keeps leading us from spring into summer. And in the hills, it appears even later in the year.

A number of other impressive clarkia species are found in our area—some with the cup-shaped flower form like this one, others with rhomboid or lobed and slender-based petals, always in fours. Their favorite colors are pinks and magentas.

Plate #17

Brassica campestris — *BRASSICACEAE CRUCIFERAE*

Field Mustard * — MUSTARD FAMILY

California coast, inland orchards, fields and roadsides — Jan-July

Being so widespread in coastal meadows and fields, this mustard deserves a place in our collection. Its deep lemon-yellow flower heads give beauty and character to California's landscapes. It is definitely non-native but introduced from Europe. A story claims that Captain Gaspar de Portola, upon arrival ashore, scattered the mustard seeds in hopes that the sprouted blooming plants would help him and his Spanish settlers to easily retrace their steps. This was in 1670. Certainly the mustard took hold and thrives.

Its stems are smooth and straight, branching alternately within each clasping leaf. The upper leaves have barely toothed margins, while the lower become more deeply indented—the basal ones having a very broad upper lobe, sparsely dotted with pale 'warts' bearing one short hair each; the lower (lateral) lobes of the same leaf having no such decorations. Stems (sometimes with a slight 'bloom') and leaves are luminous-green when fresh.

The flowers are striking 'cross' arrangements—four yellow petals and four orange-yellow sepals. Each blossom bears four taller and two short stamens and a green style. The pods point upward, each with a conspicuous beak.

During drought years, when other small wildflowers may look stunted, field mustard often makes a spectacular showing. It assures us that spring is here.

Plate #18

Raphanus satifus — *BRASSICACEAE CRUCIFERAE*

Wild Radish * — MUSTARD FAMILY

Coastal meadows and roadsides throughout Pacific States — Feb-July

The wild radish is naturalized from Europe. It first came from China and was cultivated in Egypt. It thrives in the Mediterranean and has found its counterpart climate in California. It is an 'invader,' but not as dreaded as ice plants (19) and French broom. The Greek name *Raphanus* describes the 'quick appearing' due to instant germination of its seeds. How true this is, we all know from the radishes we grow in our gardens—these being a cultivated form of this attractive 'weed' as it is considered by many. Yet it must have caught many people's eye with its prolific multi-colored stands.

It is of amazing variability, although unmistakable with the small upper leaves that are simple, pointed and toothed. The lower ones are sometimes enormous, particularly their topmost lobe. The other, likewise rounded, segments are often in pairs, but usually alternating, somewhat narrower at their base, and pointing downward. These compound leaves do not have the stem-clasping lowest segment of the field mustard (17). The stems and leaf backs are variable with the presence of short, prickly hairs.

The typically cross-arranged blossoms may be small or average and of sundry shapes and colors: white, pink, purplish, yellow, tannish, and mostly with hair-fine venations, lending a butterfly quality. They have four longer stamens and two shorter ones, like most crucifers. Maturing pods show clearly the lined-up seeds within, because of constrictions between them.

Plate #19

Carpobrotus (Mesembryanthemum) chilense, and edule — *AIZOACEAE*

Sea Fig* Mesembryanthemum chilense, Hottentot fig * — CARPETWEED FAMILY

Coastal region of Pacific States — April-Oct growing forever

Most of the time, we refer to these succulent plants as 'ice plants,' but the related species by that common name is *C. crystallinum* of Southern California. It has white flowers, and derives its name from the small, ice-crystal-like bodies on its leaves. We should probably get used to sea fig as the magenta and Hottentot fig as the yellow-flowered species.

Ice plants have been introduced from the Southern Hemisphere, mainly from Chile and South Africa. From small beginnings along the seashore, they have nearly conquered coastal California. They are indeed fantastic dune strongholds. Their tough-wiry, spreading, drought-resistant nature has been applied to fortify and adorn uncounted miles of road banks and highway dividing strips. In spite of the successful efforts to control these succulents in the Pacific Grove dunes and Point Lobos, I'm afraid they are here to stay, unless nature sends us a killing freeze. Ground squirrels' munching the tips of their juicy leaves and flower buds is not enough to stop this unassailed genus from proliferating. The fact that its stems and leaves are good in salads (according to Clarke, 1977) is apparently not well known, or our restaurants would have taken advantage long ago to bring variety to the standard American salad. The fruit—known here as beach fig or –apple—is also edible (Kirk, 1970). Those fruits' rich-spicy scent has become part of our marine atmosphere as it blends with salty, sea-weedy and fishy odors, with cypress, pine and flowering scrub. But—it continues to alter habitats by ruthlessly creeping over the native wildflowers, choking them and climbing over low blue-brush (23), bush monkey flowers (24) and lizard tail (29), etc.

Already in 1988, probably more than 10 acres of Garrapata State Park were claimed by ice plants, and they keep spreading. The yellow-blooming Hottentot fig has larger flowers than the magenta sea fig. In some areas, it looks as if a hybrid variety had developed, which looks like the yellow but bears large soft-pink flowers (not the spent yellow that turn pink). The smaller-flowered magenta sea fig with its shorter, bluish-green leaves is now less frequently seen.

Decorative, eye-catching, smaller-blossomed species in this group were fashionable some thirty years ago for garden ground covers—orange, cream, rose-pink, magenta, salmon-and-white—that are now rarely seen, but for the gaudy-pink one with its small, bluish-gray-green miniature foliage; it blankets Pacific grove's Perkins Park along the water front.

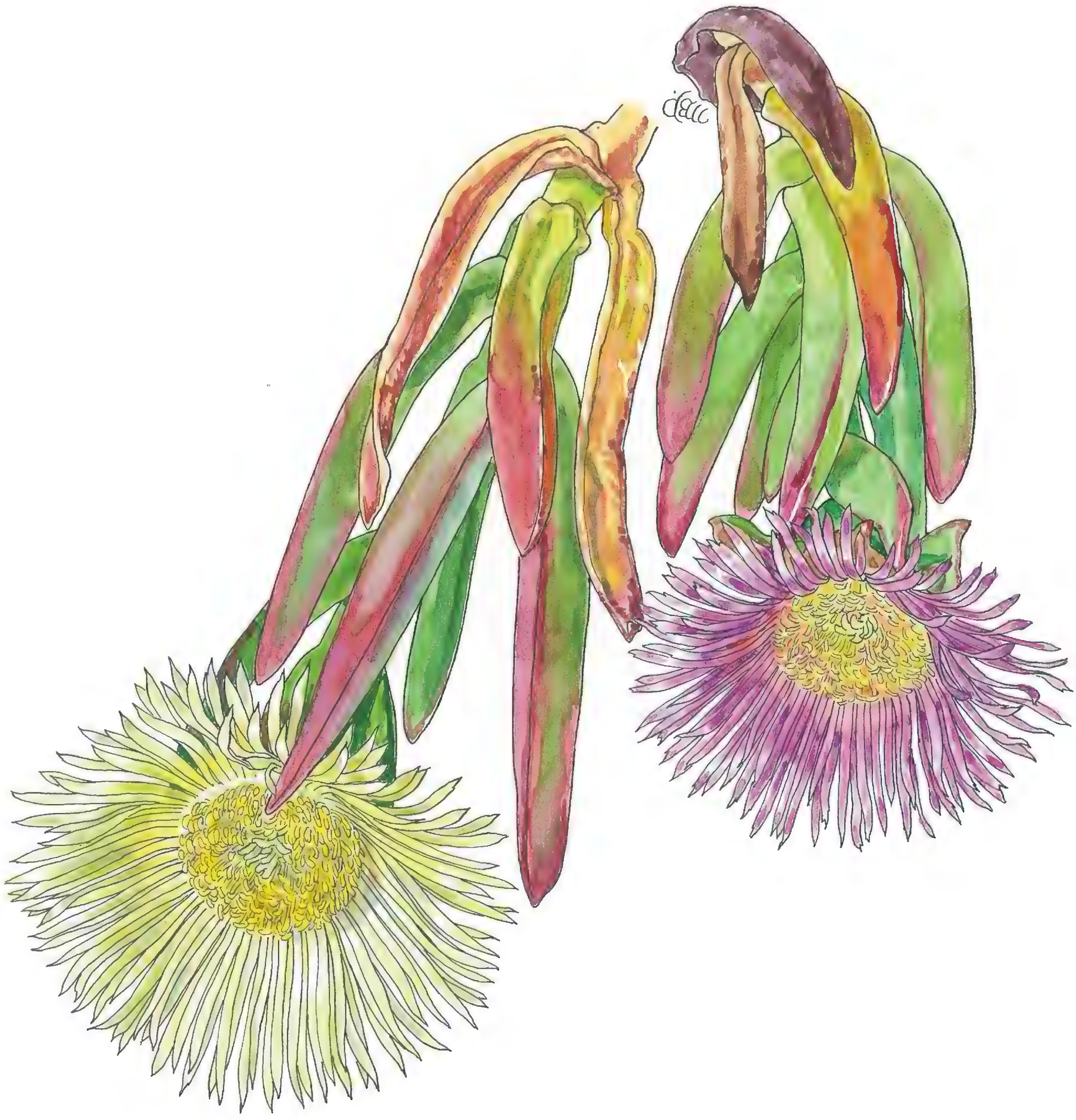

Plate #20

Dudleya farinose *CRASSULACEAE*

Bluff, Sea Lettuce or Powdery Dudleya STONECROP OR LIVE-FOREVER

From Los Angeles, California along the coast to Southern Oregon May-Sept

'Live-forever' is no doubt the best common name for this hardy succulent, but it refers to other species of the genus as well. 'Bluff lettuce,' however, describes the lettuce-like head formation of each rosette, springing from a common woody base. The component thick angular leaves are frosted with a silvery bloom—more like cabbage than lettuce. In the late spring, the flowering stems with neatly alternate, triangular leaves rise and slowly unfurl spiral flower clusters of pale lemon-yellow campanulate blossoms. These stout red stems may reach a foot or more in height when the flowering branches spread.

A coastal cliff decorated with these blooming jewels of silver, gold and ruby, is a magnificent sight. The small rosettes, here and there with red-tipped leaves and wilting floral stems, last through the cold of winter as mere silver stars on the dark, shady cliff faces and at the fringes of pine forests as well. Point Lobos has many such displays—sometimes with frills of Spanish moss for stage curtains.

Plate #21

Abronia latifolia — *NYCTAGINACEAE*

Yellow Sand Verbena — FOUR O'CLOCK FAMILY

Santa Barbara, California to British Columbia — May-Nov

This is not a true verbena, though resembling that genus and family. From inconspicuous beginnings in early spring—looking like short, sticky, succulent stems—pairs of roundish, dull-glossy-green, fleshy leaf blades on ± equally tall petioles rise. Under the sand, and later above it too, this strong network of stems connects and feeds from long, leathery roots. These are perennial and may grow to near-trunk proportions. Severe storms sometimes expose them, but they are deeply anchored—ideal stabilizers of our sand dunes. The Northwest Indians used to eat these roots as a special treat. But we must now preserve and nurture these and other native plants. Their habitats are shrinking. As yet, this species abounds in our area on coastal strands and in the dunes. Fortunately.

Besides its being a needed, practical plant, the yellow sand verbena is a delightful wildflower. From any leaf pair on the trailing branches, sprouts a flowering stem which bears a round flower head of many honey-fragrant, lemon-yellow blossoms. Each corolla tube is a mere calyx without petals, yet it spreads elegantly into mostly five deeply-notched lobes. The five stamens are inserted in the bottom of the funnel, and the pinhead stigma barely shows in the throat. All the flowers emerge from dish-like bracts. The fruits have tiny beaks and wings.

It is small wonder that the Greek name *'abros'* was chosen to do justice to such fine features—it means 'graceful.'

Plate #22

Abronia umbellata — *NYCTAGINACEAE*

Pink or Beach Sand Verbena — FOUR O'CLOCK FAMILY

Los Angeles to Sonoma Counties, California — Most of the year

A close relative of the yellow sand verbena (21), this species is an equally valuable sand stabilizer, although its habit is more slender and delicate-looking. Its prostrate red stems of typically sticky nature bear rows of erect leaves—their red stalks either shorter or longer than their respective blades; these being spaced- to diamond-shaped, dark-green and leathery. The slender red flower-bearing stems terminate in dome-shaped heads of twelve to fifteen pink corollas with white center areas surrounding their pin-hole throats. These blossoms (calyces), like those of the previous, have no petals but their own deeply-notched calyx lobes. They are showy, fragrant little trumpets. Some plants may have warm-pink flowers, others lavender-rose to magenta ones, but never a combination of these. Even off-white ones occur. These differences have nothing to do with age, but express the individuality of each plant.

After not seeing this charming dune and beach flower during countless drought years, I was overjoyed to find a number of healthy stands near Point Pinos and Asilomar, Pacific Grove, before the drawn-out dune restoration began. This pink *Abronia* has an amazing endurance record: In a twenty-five-year-long paved-over area, which was returned to its original sandy state, the sand verbena re-appeared from its almost tree trunk-sized deeply-hidden root.

This flower species is the first plant from California to have been cultivated in Europe: brought by the La Perouse expedition (1786) from Paris.

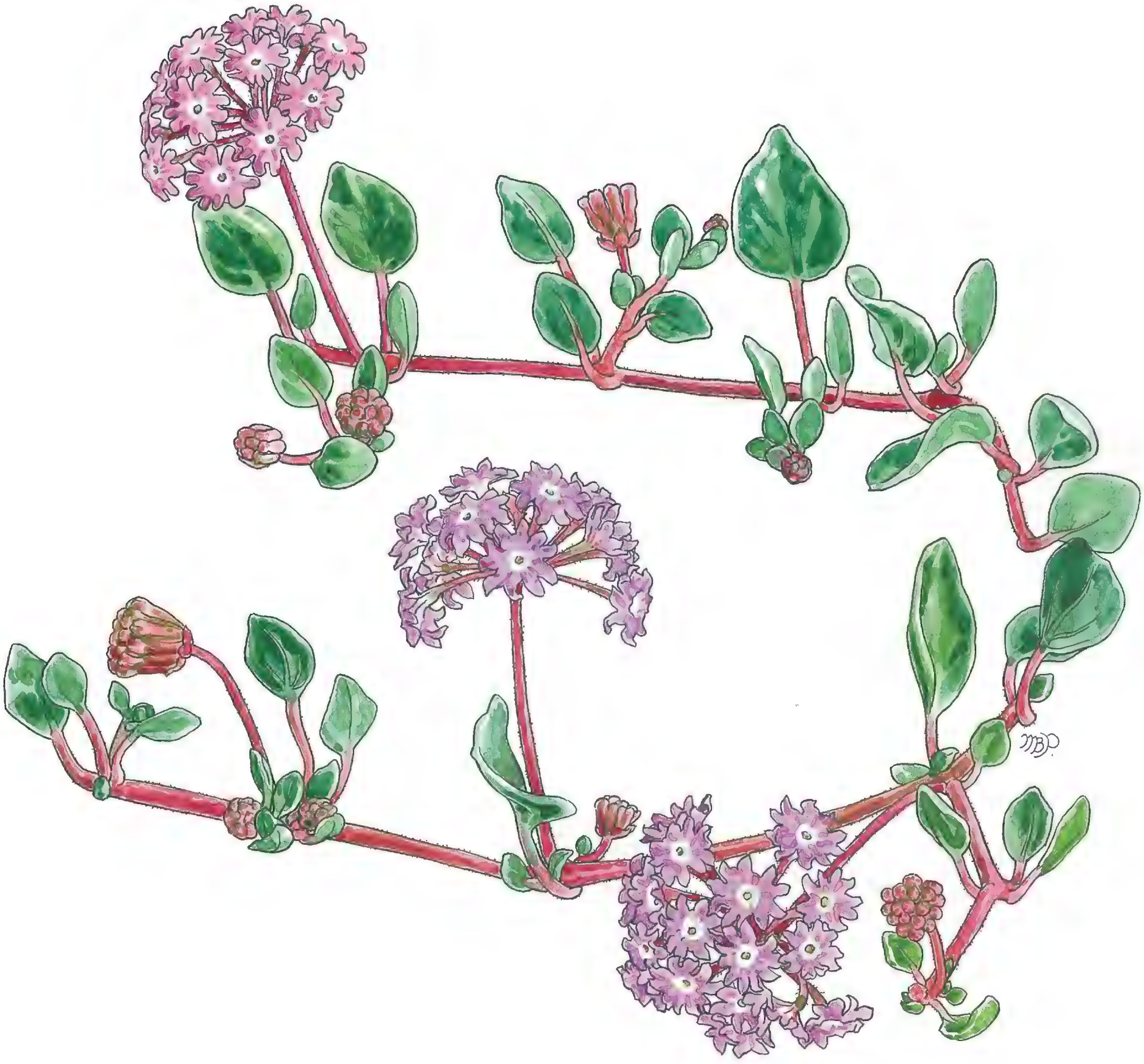

Plate #23

Ceanothus thyrsiflorus var. repens — *RHAMNACEAE*

Blue Brush, Blue Blossom, California Lilac — BUCKTHORN FAMILY

California coast, not higher than 2000' feet — Feb-June

Var. repens—Marin to Monterey Counties

'A dream of delicate blue' would be a fitting description for this native California shrub that can grow to tree size. Here we see its prostrate variety—typical for our coastal scrub. It often decks entire slopes with blue-blossomed 'mounds' set among bush monkey flowers (24), hedge nettle (46), and paintbrush (26).

Each dainty flower in an elongate or roundish clustered flower head is the shape of a long-stemmed champagne glass flaring into five tiny hooded, clawed petals. Five hair-fine stamens with creamy-yellow anthers protrude. These blossoms are miracles of intricate design and loveliest shade of softest blue. But a richer blue—almost like the ocean on a summer day—is not uncommon for this species. The maturing berries are shiny purplish-black, often sitting in groups of threes.

The green stems are ribbed, bear short branchlets with alternate ovate leaves—dark-gloss-green above, soft-dull-green underneath, structured with three prominent veins, the outer two branching toward the outside. There are several more laterals.

It is true that many California lilac species are frequented by ticks. The not-so-pretty common name 'tick bush' is therefore justified. It is safe to avoid brushing by this shrub's branches.

California hosts fifty to sixty species and numerous varieties of blue brush. Their blossoms' color spectrum includes white, cream, pink, lavender, sky-blue and shades of royal blue. They hybridize readily and are cultivated for gardens. They fill the spring scene with their delicious fragrance.

Plate #24

Mimulus aurantiacus — *SCROPHULARIACEAE*

Bush or Sticky Monkey Flower — FIGWORT FAMILY

Western Oregon to south-central California, below 3000' — March-Aug

'Mimulus' and 'Monkey flower' refer to 'grinning' or 'miming' faces. Yes, these blossoms, especially when all facing in one direction, look like a laughing audience. Their coloring varies from soft-creamy-yellow to yellow- or deep-orange, mostly with a salmon-y cast. The 'faces' have two upper and three lower lobes, opening from laterally extending corolla tubes. The two-lipped whitish stigma that easily closes upon receipt of pollen, is a typical feature. Each calyx is likewise a tube—soft-green and ribbed, ending in five uneven tips.

The leaves are simple, often narrow, blades with neatly engraved vein-patterns; their edges tend to be turned under. They are set in pairs, in crosswise alternate direction.

The branch depicted on the cover composition is a typical one: leaf pairs subtending flower pairs. When later on I searched for a perfect one to illustrate as individual plate, I chose this gorgeous specimen, rich with budding and mature trumpets. When I started to draw it, I found that the leaves and flowers were arranged in threes rather than in twos. Only once have I found another plant like it. Are these rare exceptions? Nature does her secret trickery now and then.

We could easily call the bush monkey flower the most typical and abundant flowering shrub of coastal California; it loves sea spray and fog as much as the dry summer hills which it may cover totally with its muted orange-golden flower masses. Due to glandular-glutinous stems, leaves and calyces, the plants are sticky (hence the common name). Regardless of this slight disadvantage as cut flowers, their visual beauty wins our hearts. Few shrubs have such an extended blooming season. Long live the monkey flower!

Plate #25

Astragalus nuttallii — *FABACEAE LEGUMINOSAE*

Nuttall's Rattleweed, Locoweed or Milk Vetch — PEA BEAN FAMILY

Monterey Bay to Santa Barbara, California — Jan-Oct

On sandy bluffs, in dry coastal meadows, or among rocks near the sea, this sturdy perennial adds grace in form and delicate colors. Depending on its chosen spot, it grows bushy to several feet high, or low spreading. Its blue-greenish to purplish, often short-hairy stems produce long, curving leaves of evenly-set pairs of blue-green leaflets; often 29-31 (counted singly; also known to number from 23-43). The long peduncles are central or lateral, proceeding from the leaf axils; they terminate as an elongate cluster of numerous, neatly arranged, ivory to pale turquoise flowers. The latter point down, then sweep upward.

The large inflated pods are sometimes a gaudy, luminous green, often with reddish 'prows,' or later solid red. In their brown, mature state, you can hear the loosed seeds inside them rattle, when the sea winds stir. I can readily picture grazing horses or cows suddenly galloping away, spooked by that noise. In other cases, such livestock behavior may be caused by the poisonous element selenium contained in some soils, absorbed by locoweed species, and eaten.

Carmel Riviera, Carmel Meadows, Point Lobos, and the Pacific Grove ocean front are a few places hosting this fascinating perennial on our central coast.

Plate #26

Castilleja latifolia *SCROPHULARIACEAE*

Seaside Painted Cup or Monterey Paintbrush FIGWORT FAMILY

Along the coast from Monterey to Santa Cruz, California Feb-Sept, sparingly all year

The roughly 200 mostly western species of Indian paintbrush or castilleja are namesakes of the Spanish botanist D. Castilleja. This species—the 'broad-leafed' one—is typical for the Carmel and Monterey areas and may be found further south, and north to Santa Cruz. It grows in the sand, close to the sea, mostly among scrubby vegetation of silver-grays and rich greens, and other blooming herbacious plants. It semi-parasitizes on the roots of these—drawing nourishment without depleting the hosts. It is a perennial.

Here we see three-color variations of the floral bracts that make up the 'paintbrushes.' They occur in an even deeper red like velvet, in straw color, nearly white, and lemon yellow. In mid-summer, the showy castilleja clumps may reach two feet in height and dazzle the eye with so many colors.

The individual flower is narrow and greenish, hiding inside its color-margined calyx and bract, and finally shows its style and anthers, somewhat like a bird's beak. This is only one example of the imaginative floral shapes the FIGWORT FAMILY produces.

Plate #27

Corethrogyne californica — *ASTERACEAE COMPOSITAE*

Beach Aster — SUNFLOWER FAMILY

Monterey County, California to Coos County, Oregon — April-Sept

I found this aster-like coastal beauty in bud and full bloom in mid-August—as if it hadn't bloomed profusely in early spring. I say 'aster-like' because its genus is distinguished from the true aster mainly by the microscopic appendage of yellow hairs on the style of each floret. Another identifying feature is the wooliness of stems and foliage, particularly on the newer growth.

This coast native's tenacity in going through most summers' drought and winters' cold, can be attributed to its perennial rootstocks and woody base, and its creeping close to the ground, therefore being less exposed to extremes; also somewhat sheltered by dense-growing or taller plants and low scrub. Wherever it frequents open spots along bluff trails, it justly wears its thicker protective covering of whitish wool. This lends a silvery touch to this decorative plant that can be dense with foliage, and form colonies, or it may trail along gracefully, branching noticeable and showing off its lavender-pink aster-like heads individually. These have 30-40 rays that vary from paler to richer colorings, and from very narrow to wider. They end in fine, two-toothed tips. This flower's 'heart' (disk) is yellow.

The simple, sessile leaves are narrower at their base, wider above, and their green margins usually show a few teeth. They are alternate, or nearly opposite where branches sprout. Those close to a flower head look bract-like, much like the involucral bracts themselves.

The main difference between two coastal varieties is in the width and shape of the leaves.

Plate #28

Gilia tenuiflora, ssp. arenaria — *POLEMONIACEAE*

Sand or Dune Gilia — PHLOX FAMILY

Monterey Bay, California — April-May

Among the small wildflowers, this gilia is rare and has not been found by many of us. The range of this subspecies is strictly the Monterey Bay. The slightly more common main form grows in sandy washes of the inner southern Coast Ranges, and the Santa Cruz Mountains.

The most obvious difference in the ssp. is the total hairiness (pubescence) of the stem, branches and their leaves and calyx lobes—instead of having a partially smooth stem. The leaves of the basal rosette, however, are smooth, slender, somewhat fleshy, and with serrations along their upper margins.

The five broad lobes of the white-centered blossoms with blue anthers and three yellow stigma lobes, range from soft pink, rich pink-lavender to nearly blue-lavender. Seen from the side, the corolla is a very slender-based, long funnel—wider toward the throat.

If you are lucky enough to happen upon this tiny gem, admire it, photograph it and keep it secret. We all are guardians of endangered plants, no matter how small or inconspicuous.

Plate #29

Eriophyllum staechadifolium — *ASTERACEAE COMPOSITAE*

Lizard Tail or Golden Yarrow — SUNFLOWER FAMILY

Monterey and Santa Cruz Counties, California — April-Sept

Monterey County is the type locality of this mostly low shrub (1-5 feet) with its masses of yellow flower heads. These can be so dense and abundant as to practically hide all its foliage. This may happen during its peak in June-July. Carmel Meadows, Point Lobos and Garrapata State Park are special places for such displays against the blue ocean. Lizard Tail grows among sage brush, and mixes with varied seaside flora on beaches and bluffs, but not above 200 feet.

The fingernail-size, rich-yellow flowers are tightly clustered on pale-green stems forming flattish heads. Each composite blossom has 7-10 broadly-oval rays ending in one or two tips. The pincushion-like disk-flower center is orange-yellow.

The name Lizard Tail is aptly given: when scrutinizing the leaves, you will easily detect the shape of a lizard with its elegantly curved long tail, and frequently, two pairs of 'legs.' Such imaginative contemplations help us to remember our 'newly discovered' species. Its Green name too is descriptive—*'erior'* meaning 'wool,' and *'phyllon,'* 'leaf.' This refers to the near-white wooly underneath side of the leathery leaves; their tops, however, are smooth green with rolled-in margins.

The stems are mostly erect, branching, and wooly when young. They are woody at the base and rise from perennial rootstocks. Ground squirrels, mice, rabbits and birds gladly take shelter under this honey-perfumed shrub that keeps on blooming into the late summer.

The variety *artemisifolium* of this species has smaller features: the leaves more pinnately divided, and the flower heads are rounder. It often adorns the coastal bluffs in solid yellow long before the larger Lizard Tail shrubs get into full bloom—May-June as against June-July. Grows from sea level to 8000 feet.

Plate #30

Achillea millefolium — *ASTERACEAE COMPOSITAE*

Common Yarrow or Milfoil — SUNFLOWER FAMILY

Santa Barbara to Del Norte Counties, California — June-Aug

The Greek hero Achilles was first to use this plant medicinally, especially for wounds. Therefore the genus bears his name. The specific name describes the fern-like dissected leaves as 'thousand-leaves'—*millefolium.* There are three species and other subspecies that have all been given this name, although it belongs mainly to the Eurasian species that is common here. The differences are all in microscopic details. Such species and varieties are found all over North America and are difficult to distinguish.

As sand stabilizers, these plants with their spreading, perennial roots are valuable in our dunes. The one portrayed here is from the Asilomar Grounds of Pacific Grove. The small composite blooms have broad white rays and creamy disk-flowers. They come in flat-topped clusters—one to several to each erect stem. The latter is covered with dense, short hairs, larger ones sprinkled in. They don't give a very wooly appearance. The flowers have a pungent odor, and the leaves are pleasantly aromatic—confirming summer and sunshine, and inviting small insects and butterflies.

Plate #31

Lupinus arboreus — *FABACEAE LEGUMINOSAE*

Bush Lupine (multi-colored forms) — BEAN OR PEA FAMILY

California coast, spreading northward — March-Sept

Although the bush lupine is introduced, it certainly is an asset to our loved coastal scene—in dunes, among sage scrub and along roadsides. The two different color combinations shown (See also Plate 32) are taken from separate bushes gracing the Asilomar dunes of Pacific Grove. An amazing variety of such delicate colors can be found in bushes growing side by side. Each bush seems to have its very own color scheme. To see many of these in full bloom is a feast to the artist's and nature lover's eye—the low dome-shaped bushes are often clustered, and frequently with one or dozens of the solid lemon-yellow ones thrown in. This latter form is not depicted here. It is an image of luminosity—its rich yellow glowing in the sunlight. Point Pinos, Asilomar, Point Lobos, and Highway 1 toward Big Sur are commonly adorned with its bushes. All these are of the same species.

Other bush-type lupine species and varieties grow more inland in our Coast Ranges and Sierran foothills. All are very difficult to identify, even to seasoned botanists. Lupines are extremely variable, and they readily inter-hybridize.

Last but not least: they are rich with perfume. And after a rain, their hand-shaped, slender-fingered leaves each enclose a diamond drop in its center.

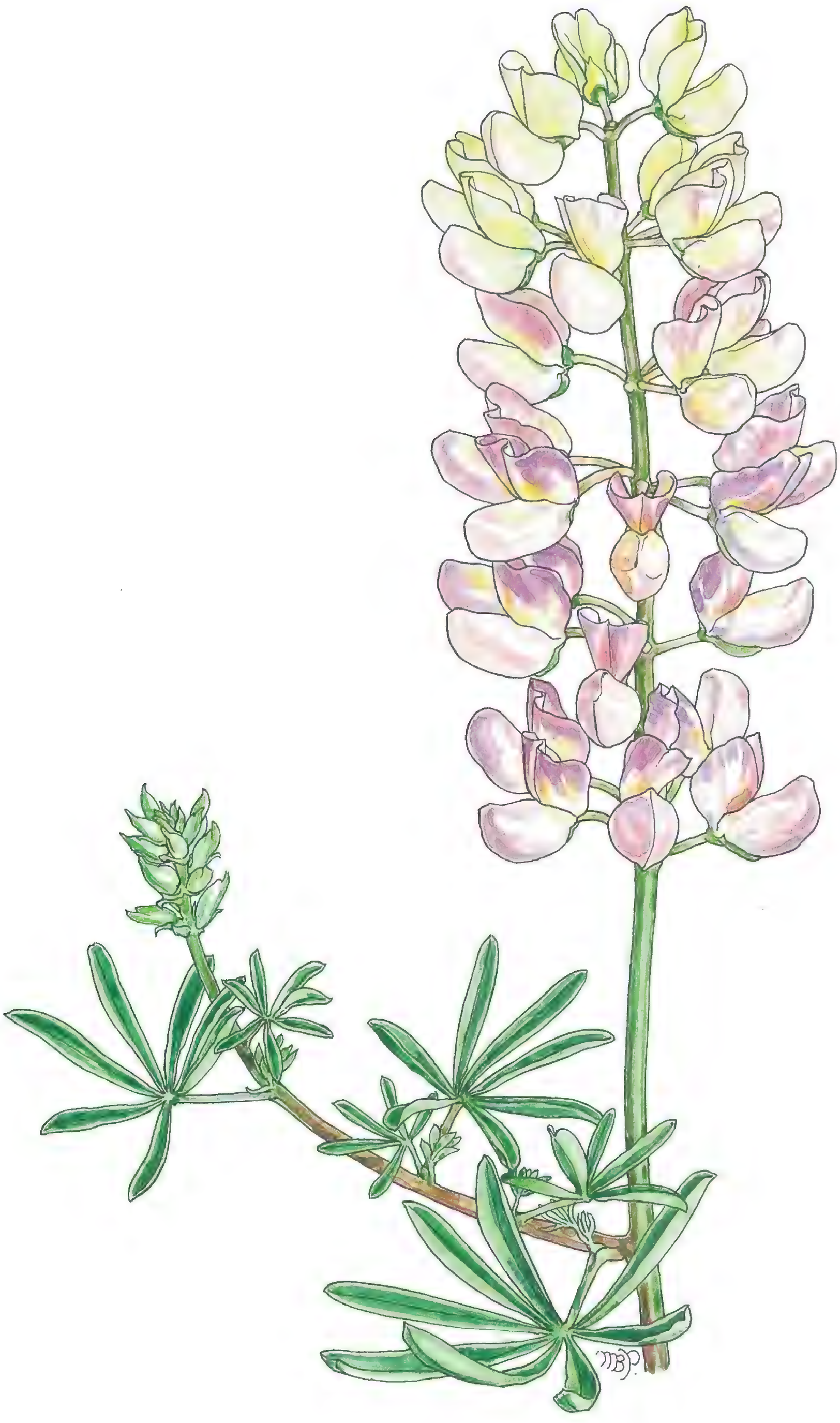

Plate #32

Lupinus arboreus — *FABACEAE LEGUMINOSAE*

Bush Lupine (multi-colored forms) — BEAN OR PEA FAMILY

California coast, spreading northward — March-Sept

(See Plate 31)

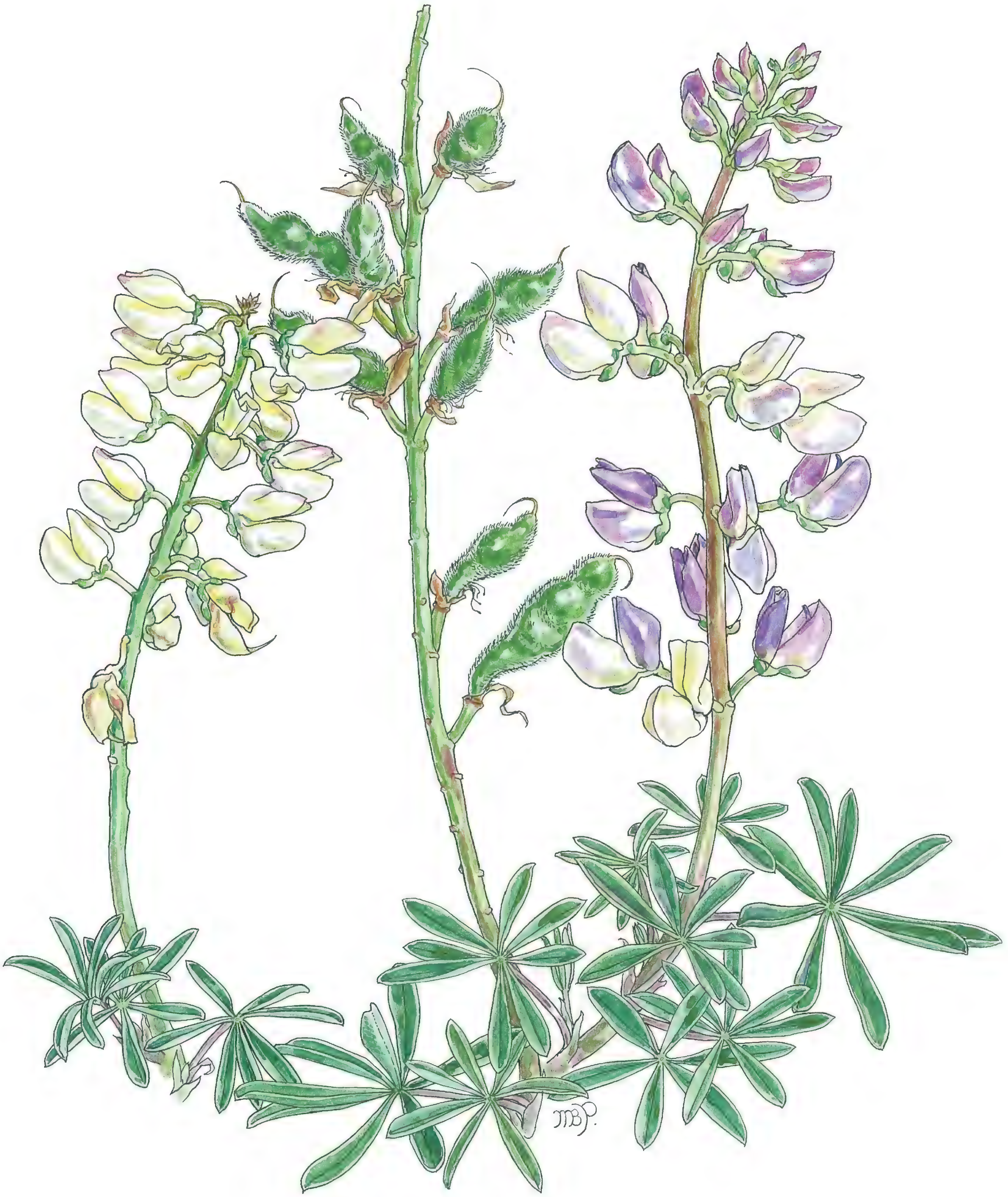

Plate #33

Lupinus succulentus — *FABACEAE LEGUMINOSAE*

Succulent Lupine — BEAN or PEA FAMILY

Coast Ranges, southern three-fourths of California, grassy flats below 2000' Feb-May

A young plant of this spectacular lupine is like a posy of six to nine-fingered, densely distributed leaves coming from a thick yet hollow central stem. This is crowned with its first tight pyramid-shaped flower head (raceme) of deep-purple blossoms—each at first with a white or yellowish, sometimes spotted, area around the banner's central pleat. Within a few days, this 'pyramid' stretches into a long, open inflorescence, showing plainly the whorls of five flowers each. As it continues to unfold at the apex, the lower whorls begin to display their young, short hairy pods—style curving upward, and petals drying.

The whole plant looks smooth and fleshy; but barely visible, dense, short hairiness decks the inflorescence stalk, pedicels, and calyces. The leaflets on each 'leaf-hand' are 'tucked' and slender at their central base, broadening to a rounded trough-like blade with small, downward-pointing tip. They radiate from 2"–4" long, often horizontal, leaf-stalks (petioles). The plants I scrutinized, refused to have nine leaflets. Seven and eight were their preferred number of 'fingers.'

The 'posy' gradually expands into one of many branches and flower heads, forming a showy cluster of nearly two feet. It is one of the early-blooming annual lupines in the meadows close to the Carmel River mouth, and in other juicy flats. I also found it at the rim of one of the steep canyons that carve into the southwesterly exposed Carmel Valley hills. It had taken root in a recently disturbed chalk-rock situation—just one plant in its prime and of flawless design—a botanist's as well as an artist's ideal.

Plate #34

Convolvulus soldanella — *CONVOLVULACEAE*

Beach Morning Glory — MORNING GLORY FAMILY

San Diego, California to Washington coast; Old World; South America — April-Aug

When opened wide to the sun, these eye-catching morning glory blooms growing low on the beach sands, suggest 'fairy beach umbrellas' inverted by gusty winds. The five-pointed white star set inside the pink-lavender flower is truly parasol-like. But a more scientific definition would be 'short funnel-form'—speaking of shape. When still in bud, and later as spent flower, it is rolled or twisted umbrella fashion. The umbrella theme wins!

"Soldanella' or 'small coin' refers to this prostrate plant's shiny round, fleshy leaves. These are actually kidney-shaped, but appear coin-like because of their rolled-in sides and nearly metallic sheen. They are clustered or lined up along the creeping, fleshy stem, often hidden in the sand, rising from deep-seated, perennial rootstocks.

To the left of the Carmel River mouth when facing seaward, numerous plants of this exquisite morning glory still trail in the loose sand of the sloping strand and above it where a wildflower carpet has formed. But it is shocking to realize how few of the blossoms can unfold freely where the 'cables' of ice plant stems and their tough, dried leaves have become dominant. Is this treasure of our coast being run over? As of this writing, it is as yet a common species, but less and less so in our area.

This is an age of dramatic change. Groups of dedicated people such as the 'Native Plant Society' and the 'Monterey Dunes Coalition' face critical challenges—moment by moment, and every moment counts.

Plate #35

Lathyruus littoralis — *FABACEAE LEGUMINOSAE*

Silky Beach Pea or Vetchling — PEA or BEAN FAMILY

Monterey County, California to British Columbia: beaches and dunes — April-July

This wild 'Sweet Pea' does not have tendrils at the tip of its compound leaves as does the cultivated European one. Therefore, it is not so much a vine as an erect or somewhat prostrate, often bushy, plant. The stems and leaves are silvery blue-green, covered with silky hairs. Each leaf is composed of four to eight oval leaflets and a miniature bristle-like one terminating the midrib instead of a tendril. A pair of stipules, about as long as the leaflets, at the leaf axils is typical in this species.

Each flower cluster generally consists of from two to ten fragrant 'butterfly' blossoms. These are purple above (the standard or banner), and white beneath (wings and keel). Sometimes, they vary from pink to blue. The chubby pods are, like the whole plant, soft-hairy.

Lovely stands of this impressive perennial wildflower may be found in the white sands near the Spanish Bay Resort, and Asilomar of Pacific Grove. It is good to know that it is still common farther north along the coast.

The silky beach pea leaves one with a feeling as of silvery fog descended upon the sand, preparing us for the summer fog's arrival.

Plate #36

Cryptantha leiocarpa — *BORAGINACEAE*

Coast Cryptantha — BORAGE OR FORGET-ME-NOT FAMILY

Santa Barbara County, California to southern Oregon, below 500' — April-June

Like numerous species of its genus, coast cryptantha is inconspicuous. Yet its silvery hairiness, its small flowering coils with dainty white flowers at the end of each branch, may strike us as most precious and graceful, especially when found spreading over white sand dunes. This one flourished in the Asilomar dunes of Pacific Grove; it grew alongside blue toad flax and pink sand verbenas (22).

The hairs on all parts of the plant point upward, those of the rounded calyces looking bristly. The minute white flowers with yellow throats hold the stamens invisible inside the tube. In a first-described species, the flowers hardly showed above the calyces, wherefore 'Cryptantha' became the generic name: *'cryptos'*—'hidden,' and *'anthos*—'flower.' Each tiny bloom says unmistakably 'Forget-me-not.' The floral spikes gradually uncoil as the one-seeded nutlets mature.

The longish leaves are alternate, but lower down the stem, opposite. This is an annual herb that is rather widespread up and down the coast from our Monterey Peninsula. It highlights dunes and coastal scrub with its millions of tiny white sparks. Popcorn flower, forget-me-not and fiddle neck (43) are its relatives.

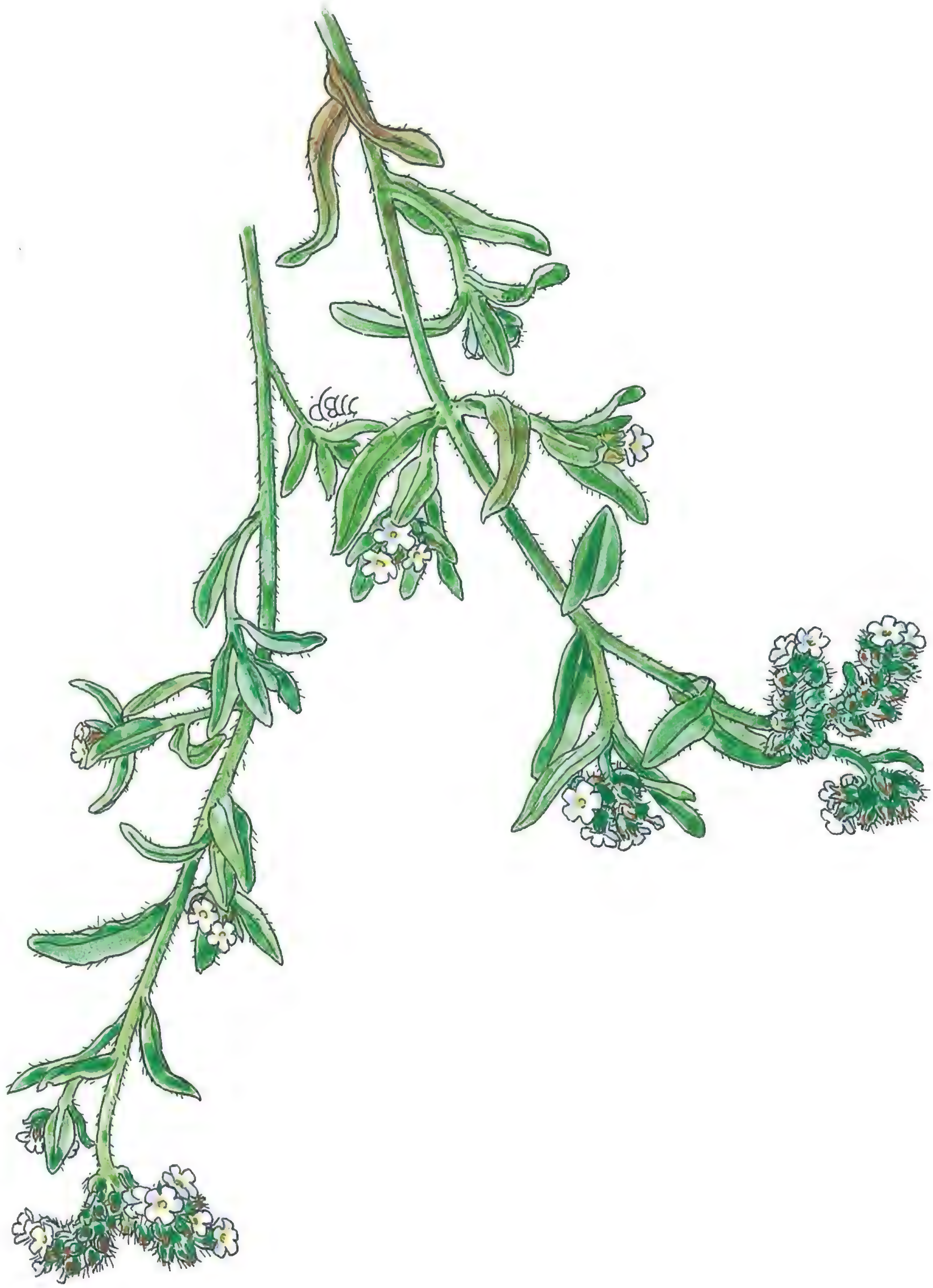

Plate #37

Dentaria californica — *BRASSICACEAE CRUCIFERAE*

Milk Maids or Toothworts — MUSTARD FAMILY

Baja California to northwestern Oregon, west of deserts, below 2500' — Jan-May

A most common, delightful, typical California spring wildflower, milk maids along with buttercups are the harbingers proclaiming rebirth of all slumbering leafy things. Already after good autumn rains, a sizable solitary rounded leaf may have sprouted from each toothed or horned *(dentaria)* tuberous rootstock—unnoticed among the forest litter, old or fresh grasses. But when the countless smooth flowering stems with terminal, later also lateral, white-flowered inflorescences rise, the woodlands and shaded coastal meadows are alive again. Usually February or March.

The four-part blossoms are often tinged with pink, but pure-white is perhaps more common. They come on hair-fine flower stems (pedicels) up to one inch long, thus forming graceful, somewhat open floral clusters. As the petals drop, the pedicels and delicate linear pods continue to lengthen, giving the typical MUSTARD FAMILY look. The flowers' scent resembles vanilla.

Rarely more than four compound leaves grow from the central stem—in alternate pattern—extending horizontally or slightly upward. Each leaf has three to five smooth leaflets—the central one longer, the laterals shorter and of opposite symmetry—butterfly wings style. These leaf-segments vary from slender pointed to roundish with considerable indentations. All have a few or numerous marginal teeth (this helps to endorse the scientific name). The basal leaves have the same arrangement but are rounded to kidney-shaped. Often their reverse side is tinged soft-to-intense lavender or reddish-violet. A variable species with some six varieties.

Milk maids go to sleep at night closing their flowers.

The two illustrations (See also Plate 38) show typical forms: the darker blue-green leafed with purple flecks from the Big Sur River near the coast; the yellow-green delicate leafed from Garland woods, eleven miles inland in Carmel Valley. These forms often grow side by side.

Plate #38

Dentaria californica — *BRASSICACEAE CRUCIFERAE*

Milk Maids or Toothworts — MUSTARD FAMILY

Baja California to northwestern Oregon, west of deserts, below 2500' — Jan-May

(See Plate 37)

Plate #39

Fritillaria lanceolata — *LILIACEAE*

Mission Bells, Checker Lily, Purple Fritillary — LILY FAMILY

Coast Ranges, California, Oregon, west of Cascades; both sides of Cascades in Washington and British Columbia, below 2500' — Feb-May

In the Monterey area, 'Mission Bells' 'ring' at Easter time without fail. Be Easter early or late, some of this lily's amazing bellflowers have opened, or persist through storm, rain, or dryer weather. They are variously checkered or mesh-like, decorated with purple on yellow-green—each of the six petals frilled with paler edge. Gorgeous, yet inconspicuous. Inside, the yellow anthers enclosing the three-pronged, spreading style, suggest a bell clapper.

Once you know this lily's habit, it is unmistakable. As early as February, it may send up its straight, dark-green stem, surrounded by one to four oval basal leaves that are slender at both ends. The stem unfolds leaf circles well apart—the lowest usually having five, the next one three, grass-blade like, dark-green silky leaves; they spread horizontally or gracefully arching. Sometimes they are set in fours and twos. The uppermost sprout singly, usually with one flower each. There are from two to four nodding bells, the lowest opening first.

The plant emerges from a bulb with few scales and many granular bulblets. I had remembered the location of one from last year and wondered why no new ones had developed around it: did the long drought years cause a setback? But I watched this precious solitary plant week after week. It finally showed three buds. Even the lowest looked yet far from maturity, with a few purple criss-crosses appearing. Upon my next check-up, I found that something had knocked off three leaves of the whorl of five, and broken the stem in two places (an animal streaking by, hair or wind mutilating it?)—this was my cue to rescue it: I cut it, took it home and placed it in water. A week later, the lowest bud had swelled and opened. Another five days, and the next one obliged. What joy to watch the network design on the green segments perfecting itself! All this while severed from its bulb. It made my perfect model.

On Point Lobos, the checker lily grows in the cypress grove near the domes, in Garland Park, Carmel Valley, on oak-wooded slopes and by Garzas Creek—sparsely in both locations. Farther north, it seems to be more common. Flower coloring and size are variable.

The genus name *fritillaria* refers to the blossom's checkered design, or to the capsules (*'fritillus'*—Latin for 'dice box') of that shape. *'Lanceolata'* describes this lily's lance-shaped leaves. All the numerous (some fifteen) *fritillaries* of the Pacific Northwest have fantastic blossoms of mostly yellow, soft-green, and purplish-red colorings, some with camouflage patterns. Exquisite.

Plate #40

Calochortus albus — *LILIACEAE*

Fairy Lanterns, White Globe Lily, Deer Bells — LILY FAMILY

San Francisco, California south to Cuyamaca Mts., coast,
Sierra foothills, below 5000' — April-June

"Are the Fairy Lanterns blooming yet?" many people ask. Small wonder, because it's an especially charming wildflower—a favorite. It thrives equally on moist or dry wooded hillsides as on coastal bluffs, exposed to the elements. Suddenly to come upon a large stand is indeed like visiting fairyland.

The single broad, ribbon-like, basal leaf is first to emerge from each invisible bulb. It can be very long, shiny and conspicuous among the young spring grass—as early as Feb-March. Next sprouts the floral stem. This varies from a mere 6"–10" to two feet—erect, simple, or leaning and elegantly branched; each time with an enclosing slender leaf at the node. From these hang the silky globe-shaped lanterns—one to each curving peduncle. The flower-lantern has three large fringed petals, which enclose the six stamens. Each petal has a blotch of yellow or brownish at its abruptly-curved basal portion, with a broad gland inside.

The flowers tend to be pure white in shaded oak and buckeye habitats. And those plants I found atop the windswept north cliffs of Point Lobos, for example, were compact, purple stemmed, blue-green leafed, and pinkish flowered. The three short sepals are mostly rosy with rose-purple striations. The capsules—like the flowers—are pendent. They also resemble lanterns—more elongate, with three longitudinal edges, and the three stigmas as finishing tips.

In every stage, fairy lanterns are graceful, making us stop to marvel at the design. Even in their dried-up condition, there is a comical beauty about the split capsules. But in their silken globe bloom, they tell of fairy festivities with Chinese lanterns. 1989 was a peak year for them in the Carmel region and inland. They popped up even from ice plant-infested areas. One of nature's miracles.

Plate #41

Chlorogalum pomeridianum — *LILIACEAE*

Soap Plant or Amole — LILY FAMILY

San Diego County, California, to southern Oregon, below 5000,'

coastal scrub, woods and meadows — May-Aug

As early as March, amazing leaf rosettes of narrow wavy leaves begin to unfold with arching, wax-sheeny elegance. Upon close scrutiny, they show hair-fine, closely parallel striations. For many years, I didn't know that these leaves belong to the fantastic soap plant with its tall, branching, often dark-purple floral stalk and spidery, pale-bluish-silvery blossoms. No wonder—since in dry years, by flowering time in June or July, the leaves have usually died. On older plants, these decorative leaves grow quite wide, losing some of the waviness of their upturned margins. The bulb producing them is deep in the ground. There the entire leaf tuft is encased within the bulb's fibrous outer layers. The latter were made into brushes by the Indians. These native people had various uses for those bulbs; as soap, as ointment for sores, and—slowly roasted—as food. Also, crushed with other parts of the plant, it was found to stupefy fish, making it easy to catch them. But this is no longer allowed.

The blossoms' six segments (3 sepals, 3 petals in one) have a green to purple central stripe, dark-shiny on the outside, pale lavender-gray inside. They open at three or four p.m., daylight savings time, to the point of recurving—yet only for a few hours. By ±ten at night, they are closing, never to rebloom. They fold their segments over the swelling ovary. All this starts at the base of a branch. Next follows the blossom above each spent one, in succession up the branch. A branch may bear a dozen to thirty star-blossoms.

Judging from the great height of the main stem and the numerous branches of many plants, their bulbs must be very old. I have watched their drawn-out stages during many years on my daily walks to Garland Mesa, Carmel Valley. What a treat when suddenly the slender silvery stars appear. I also know them from Point Lobos and Garrapata State Park—in the wildflower carpets near the cliffs. Deer must love them, because their tops are often gone. Well, we must share!

Plate #42

Sidalcea malvaeflora — *MALVACEAE*

Checker (Bloom) or Wild Hollyhock — MALLOW FAMILY

Baja California to Oregon, along coast, grassy spots — Feb-Aug

'Checker' or 'Checker Bloom' must have earned its common name with the checker effect of the lighter venation on its fine pink petals. Also perhaps because of the flowers' 'checkering' the meadows with rosy blotches? The rounded lower leaves, too, have a checkered nerve pattern. 'Wild Hollyhock' though describes it best: a miniature hollyhock with typical mallow blooms. These may be large, pale-pink and delicate as butterfly wings, including stamen column and pistils; or they may be smaller and deeper rose-pink with pistils only. These two types appear on separate plants, but they often grow side by side. Both may produce seeds. This entire species is surprisingly variable.

The long-stemmed basal leaves are fan-shaped to almost circular with mere scallops or slightly deeper lobes; those on the stem finger-like cleft with five to nine ever-thinner segments closer to the inflorescence.

Checkers are perennials one-half to two feet tall, often with sprawling stems. They love moist open meadows close to the sea, but will start up the lower coastal hills. Monterey is the type locality of the forms shown here.

During the great spring bloom, Point Lobos' Mound Meadow, Whaler's Cove's Carmelo Meadow, the stretch between Carmel Riviera and Garrapata State Park, also Carmel Meadows, may be 'checkered' with their pink displays. Mallows are introduced but very well naturalized. They range from small 'weeds' to showy garden varieties including the spectacular genus Hibiscus of tropical climates. Our species is right in between—a beauty of modest dimensions.

Plate #43

Amsinckia intermedia — *BORAGINACEAE*

Common Fiddleneck — FORGET-ME-NOT FAMILY

New Mexico to Baja California, northward to Washington and Idaho,
grassy and open places below 5000' — March-June

This genus celebrates W. Amsinck, early nineteenth-century patron of the botanic garden in Hamburg, Germany. The species name refers to the rather modest nature of its blossoms, compared with *A. gloriosa* and *A. grandiflora*, the showier ones. The common name of all of these clearly defines the coiled flower spike—very much like the neck of a violin.

Fiddlenecks are definitely western American plants as are Cryptanthas (36), the white forget-me-nots. Common fiddleneck is a widespread annual plant which thrives in most varied surroundings including sand dunes. *A. spectabilis* is perhaps an even more common species along the coast, especially in the sand, but our intermediate or common fiddleneck, being a beauty in its own right, chose to be illustrated in these pages. Its shiny yet bristly stem may be erect or partially recumbent, sending up numerous elegant floral spirals that gradually unfurl. Their yellow to orange small flower trumpets emerge from glossy-green, reddish-black tipped and bristled calyces. These soon swell with the growing nutlets inside.

The leaves with three veins each have a crisped appearance, with bristles pointing in various directions—chiefly along the margins.

This species has many forms and varieties. The one shown here is from the Pacific Grove dunes at Asilomar. Because of its somewhat 'weedy' nature, it adds 'wildness' to a plant community. It also quickly says "Forget-me-not," bearing strong characteristics of its family. Indeed it is not easily forgotten, once seen in golden masses.

However, it is known to be toxic to livestock.

Plate #44

Sisyrinchium bellum — *IRIDACEAE*

California Blue-Eyed Grass or Grass Iris — IRIS FAMILY

Ventura to south Humboldt Counties, California, below 3000' — March-June

'Handsome, beautiful' is what *bellum* rightfully proclaims. *Sisyrinchium* refrs to the snouts of pigs with a liking for the woody rootstocks of this perennial. Its flattened to winged stems rise from amongst flat tufts of lance-like leaves—folded sharply at their base, clasping each other in true iris fashion. The stems form nodes, somewhat like grasses do, but we quickly detect that there is no close relationship to that family. The plants are usually well camouflaged in grassy places until their 'blue eyes' open: each flower has six lavender-purple segments—petals and sepals fused—nearly equal, ending in rounded lobes, each with a central pointed tip. They have magenta-purple veins, are dark-magenta at the base, and lemon-yellow around the deep-maroon stamen-column which is tipped with three orange anthers.

The ovary below the corolla first looks like a spring-green shiny bead; later when the flower wilts and the seeds in the three-parted capsule develop, like a small purplish-brown fist on a thin pinkish arm. These structures protrude often in clusters with both—buds and ripening fruits—from the large flattened bract called spathe.

At the Point Lobos Reserve, for instance, blue-eyed grass can form spectacular purple carpets in the meadows. When close to the sea, it usually keeps a short stem, while in the more sheltered places and the hills, it may reach 15" or more. On the Pacific Grove shore, it grows in the company of Silverweed (48) and Clover (49), in grassy spots near seeps.

It is exquisite in all its many forms, which have challenged botanists to further close studies: are several species involved?

Plate #45

Cirsium occidentale — *ASTERACEAE COMPOSITAE*

Cobweb Thistle — SUNFLOWER FAMILY

Southern two-thirds of California, coastal dunes, mesas and Coast Ranges — April-July

Of the numerous gorgeous thistle species, the cobweb thistle could easily win a beauty prize. A young plant looks totally wrapped in white wool, which upon closer scrutiny consists of myriad finest threads surrounding the underlying spines and floral bracts of the flowering heads. These are mostly flat globe-shaped. The purple-magenta coloring of the 'pot-full' of slim flowers forming a sort of pompon, adds the master touch.

The aqua-green-white stems look smooth but are soft-cottony. The leaves are deeply lobed with undulating margins, armed with pricks and spines.

This 'prickly guy in lamb's wool' normally doesn't exceed two feet in height. It loves to grow in the grassy spots between coastal scrub or in wide meadows, and may even climb up higher slopes away from the sea—often in the company of wild buckwheat (52). The cobweb thistle rarely appears in great numbers, but likes to surprise us with its amazing costume.

Plate #46

Stachys bullata — *LABIATAE*

California Hedge Nettle or Wood Mint — MINT FAMILY

Orange County to San Francisco, California, below 2000' — March-Sept

A common representative of the MINT FAMILY among coastal scrub, in hedges and shady canyons, the hedge nettle stands out. When walking along narrow trails by scrubby vegetation, we often smell the mint scent activated by our brushing by the plants' glandular hairy leaves. It is a delicious scent, and we can be assured that this was not a true nettle: 'Hitty Pitty' would have stung us instead.

Now that we have been alerted, we detect that the hedge nettle's leaves indeed look a lot like true nettle leaves, yet individual: they are strongly sculptured, short-fuzzy, with scalloped-toothed margins, and of long heart shape on a fairly short leaf stalk (petiole). They are arranged in pairs, dividing the mostly tall, erect stem into long intervals. The stem's angular look derived from four pronounced, longitudinal ridges. The latter are bristling with downward-pointing hairs. Everything else is soft-glandular.

The flower-spike consists of whorls of six bell-shaped calyces—the latter with five triangular lobes terminating in sharp points. As the plant continues to grow, this spike pattern looks more and more decorative: whorls of neatly-set buds, of full-blown flowers, and at last of calyces with maturing nutlets inside—always as circles of sixes around the stem, in axils of leaf or bract pairs.

Stunning are the rose-purple flowers themselves, reaching out horizontally. Each has a hooded upper, and long three-lobed lower lip. An orchid-like white pattern marks the lower, where insects approach their honey well. The hood hides the style and stamens.

'Stachys' comes from the Greek *stachus*: 'ear of corn or spike,' and an impressive spike it is. The plant shown here grew on a moist slope of Soberanes Canyon, close to the coastal bluffs of Garrapata State Park.

Plate #47

Mimulus guttatus — *SCROPHULARIACEAE*

Common or Golden Monkey Flower — FIGWORT FAMILY

Northern Mexico to Alaska, coast, inland and mountains — March-Oct

One more common name for this well-known species is Seep Spring Mimulus—because it is rarely absent in seepages, by waterfalls and on dripping stream banks. When actually growing in deep water, the plants root at the nodes, become robust and tall, their stems often tinged with maroon-red. This delightful water-loving wildflower grows abundantly along the coast, but is also found in varying moist habitats below 10,000', for example in California's Sierra Nevada. Its various forms have given rise to at least twenty-five different names. The specimen shown here was chosen from a seep in the coastal bluff of Asilomar, Pacific Grove.

Large-flowered plants are characteristic of the coast; these are eye-catching indeed when growing in spreading groups—their imaginative, bulging, 'grinning faces' egg-yellow, with red spots sprinkled on hairy lower lips into throats. (*guttatus* meaning 'spotted'.) Blooming is in pairs, up the erect stem, with many buds waiting to develop in the inconspicuous cluster above. The flower stalks then continue to lengthen, reaching out laterally as the decorative capsules mature. These flowering, fruiting pairs are subtended by pairs of sessile, stem-clasping leaves. All the leaves are glossy, rounded, ± double-toothed, especially their lower portions. This is strikingly so with the lower leaves: they expand from short leaf-stalks that join at their base around the four-edged stem. The leaf ribs run parallel.

Supposedly, leaves and stems may be eaten raw as juicy, slightly bitter, salad greens (Sweet, 1962). I cannot vouch for this, since I haven't tested it. But Native Americans had the know-how of correct herbal uses; mimulus crushed soothed wounds and burns for them. This, then, is a purposeful wildflower. May it continue to grace wet places for times to come. Who needs to eat it when it is so beautiful? Only someone lost in the woods…

Plate #48

Potentilla egdii var. grandis — *ROSACEAE*

Coast or Pacific Silverweed — ROSE FAMILY

Los Angeles County, California to Alaska; Asia — April-Aug

This Potentilla ('Little Potent One') is not the species which triggered the generic name by its medicinal merits long ago; that was *P. anserine*. But it certainly looks very similar. Another common name—'Cinquefoil'—is sometimes used, but this truly refers to those species, whose leaves are divided into five 'fingers.' The Pacific silverweed's leaves appear feather-like due to the 7-31 oblong, serrate leaflets in double rows. A shiny yellow-green upper surface distinguishes them, as does the dull silver-white reverse side.

By the layman, this flower may be taken for a buttercup. However, the five rich-yellow petals are of silky nature rather than high-glossy as in ranunculus (buttercup). The 'double calyx' (five outer bracts, five sepals) is another distinguishing feature, and so is the flower stalk with never more than one blossom atop. But each plant grows several flower stalks in succession, and it spreads by long reddish runners, forming every new leaf-rosettes.

Coast silverweed thrives in seeps along the coast and travels into the beach sands. At the mouth of streams and in salt marshes it may form dense communities. On the Monterey Peninsula, it is common on the shaded ocean banks along Sunset Drive near Asilomar. It highlights those wet areas where golden monkey flower (47), blue-eyed grass (44), cow clover (49), and seaside dandelion (50) join the coastal flower dance. The wind and waves make their music. Come, listen and watch!

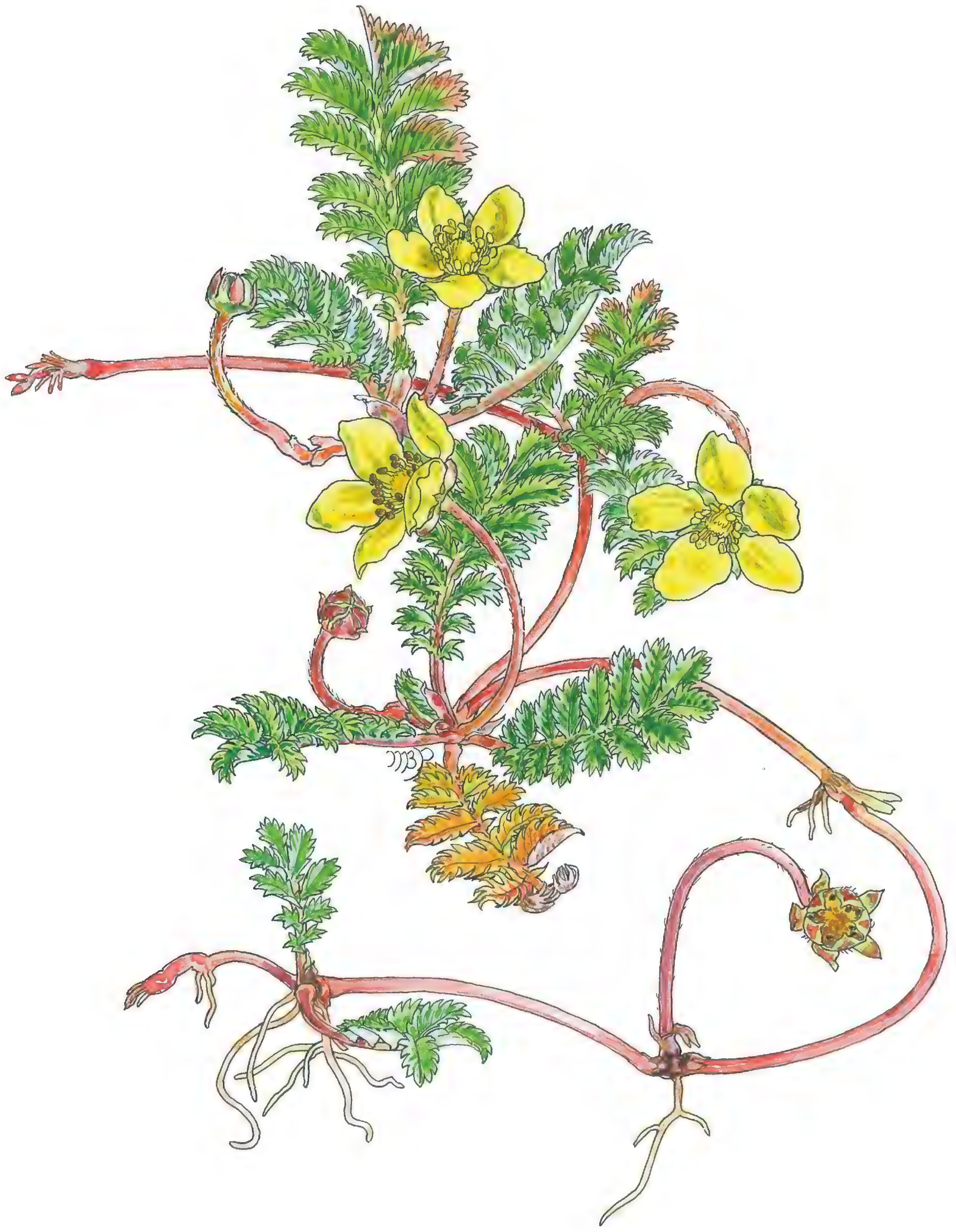

Plate #49

Trifolium wormskjoldii — *FABACEAE LEGUMINOSAE*

Cow Clover — PEA or BEAN FAMILY

Pacific States, west of the mountains below 10,000,'

also British Columbia and Rockies — May-Oct

The cow clover with its smooth, upward-curving stems and soft-purple flower heads grows in wet, grassy places, ideal for its perennial creeping rootstocks. The three cloverleaf segments are relatively slender, but vary even in plants of a close community. The semi-transparent stipules (sheath-like enveloping structures) around the leaf axils are finely fringed, especially in the upper parts of the plants.

More fringes with sharp points form the involucre subtending each flower head like a tray. This bears the numerous tongue-like clover blossoms, consisting of the pale-lavender or pinkish standard, and the darker-purple wings and keel each. It is indeed a delectable offering to cows and other foraging creatures, and one of beauty to the human eye. The benefits of many clover species are inestimable—as air and soil conditioners, fertilizers and food for man and beast.

This is a common and varied species that thrives in the wet areas near the ocean as well as in many different habitats. It spreads close to the ground, looking precious with blue-eyed grass (44), coast dandelion (50), or silverweed (48), in seeps or along stream banks. It even grows in the dunes—Asilomar, Pacific Grove, for example.

Plate #50

Agoseris apargioides — *ASTERACEAE COMPOSITAE*

Mountain, Sandhill or Seaside Dandelion — SUNFLOWER FAMILY

Santa Barbara County, California to southwestern Washington — March-July

To see dandelions is a delight to us who grew up with them in the country. Who didn't ever nibble their succulent hollow stems, oozing bitter 'milk,' or blow away the seed-bearing parachutes from their lacy-white magic lanterns?

This dandelion is of a related genus and comes in three named varieties. But the form shown here is typical of our Monterey Bay dunes and adjacent coastal slopes, meadows and pine forests. It is a perennial with taproot, producing a rosette of soft bluish-green, ribbon-like leaves. They are slightly broader toward the apex and have few or more teeth along their edges.

The floral stems can be either smooth or hairy. In this case, there is irregular hairiness just below each flower head and on its reddish bracts with their soft-green margins. Brown to greenish is the stem's usual coloring. Each one bears a single 'dandelion' head of evenly-set circles of luminous lemon-yellow ray flowers. The latter look as if bitten off at the ends, left with several minute serrations. At maturity comes the broadly globe-shaped 'Chinese lantern.'

'Dandelion' of course refers to the toothed leaves of the original namesake—the true dandelion *(Taraxacum)* from Europe. Being a common name only, widely known, it has been carried over—in this case not too helpfully—to the related genera. But the flowers are indeed so similar that the very name calls forth those flat, golden sun heads as well as the lantern-like puffs.

Plate #51

Haplopappus ericoides — *ASTERACEAE COMPOSITAE*

Mock Heather — SUNFLOWER FAMILY

Southern California to north of San Francisco — Aug-Nov

This is one of the numerous species of *Haplopappus*—a genus native to the western U.S. and Mexico. It also occurs in Chile. All grow in alkaline or saline soil, dry or wet, mountain, desert or coast. This one prefers the dunes by the seashore.

Its flower heads come in dense profusion at the top of each branch of the shrub, which gives a plume-like appearance. The leaves are fine and short, covered with minute hairs (magnifier!) and set in close, almost fan-like clusters.

The rays of the long floral head are intense lemon-yellow, irregular in shape, size and arrangement. They may be missing, but mostly there are two, three, up to six. When two or three, they suggest a propeller. The disk flowers in the middle are just as variable in number—from eight to fourteen, and the involucral bracts are set in staggered, long-coiled design.

The seeds (*achenes*) are borne on stiff, cream-colored bristles (*pappus*) atop the *achene*, which open up before dispersing from the small, dandelion-like 'pompons.'

'Mock Heather' refers strictly to the leaf and bush character. True heather is in its own family, the ERICACEAE, with its small, pink-purple bellflowers. Our plant here is pleasantly aromatic due to tiny glands. It is a marvel of complexity and yet simplicity in its larger design. Its full bloom in late summer can be spectacular, where the shrubs are clustered in great masses. It is common in the Asilomar dunes of Pacific Grove, along Carmel Meadows, on Point Lobos, etc.

Plate #52

Eriogonum parfifolium — *POLYGONACEAE*

Wild Buckwheat — BUCKWHEAT or SMARTWEED FAMILY

Monterey County to San Diego County, California — June-Oct

California especially is blessed with some 50 species of wild buckwheat, with at least 25 varieties, which are sometimes classed as species. The one shown here is strictly coastal, being at home on windswept bluffs, among low-growing coastal scrub and in dunes. Particularly during late summer, it contributes greatly to our seaside foregrounds—its multitudes of pompon-like flower heads of pink and white, maturing to deep rose, orange and russet. All these colors often occur in a single 'pompon' or in a great many on one bush. Adjacent plants may have chosen only one or two of these colors. With the countless other late-blooming shrubs, it makes a vivid palette.

It is typical for the branches to come in twos or threes, often again and again, with a flower head at each fork, and atop each terminal branch.

The shiny-green small leaves are set in dense clusters. They tend to be spatula-shaped, often with bright-red tips or patches. Underneath they are creamy-white, thin-wooly. Their margins are rolled under. Here and there, the soft-green to reddish near-smooth stems become visible as they grow upward from prostrate, woody branch tangle, still hung with dried-up leaves of the previous growing season. During the winter months, these low shrubby plants may look dead like kindling; yet, being perennials, they quickly return to splendorous life when the first rain descends and the sunrays grow warmer. At almost any time, a few blooms may be found, but summertime is their glory. The seeds mature in late fall.

A form with white or greenish-yellow heads grows in Point Lobos State Reserve, but is less common. In all its forms, it is a delight—not only to us who revel in beauty, but to creatures finding shelter inside its elaborate structure; bees go crazy over the honey-rich flowers—small though they are. Here, numbers make up for size…

Plate #53

Ambrosia (Franseria) chamissonis ssp. bipinnatisecta — *ASTERACEAE COMPOSITAE*

Beach Bur or Silver Beachweed — SUNFLOWER FAMILY

Lower California to British Columbia — March-Sept

A close look at what to many people would be a 'weed,' because of the absence of brightly-colored blossoms, reveals a fascinating design of foliage and floral arrangements: long spike-like inflorescences rise from the prostrate, reddish-striate stem; on them, the densely-set flower heads look like velvet-green, inverted bowls. These contain tiny straw-yellow, trumpet-shaped florets, hanging down with the stamens. The lower portion of each flower spike bears the yellow-greenish, prickly burs with two-horned beaks, formed from each matured floret.

One, sometimes two, long-petioled leaves, subtend each floral branch rising from the horizontal main stem. The leaf blade is deeply cleft and subdivided into silver-green segments that look as if molded in clay, their edges involute. Yet the whole complicated leaf tends to elegantly curve outward.

An excellent stabilizer of moving sand, this plant grows readily on the seaward side of dunes, spreading loose mats from a perennial root system. Its burs contribute to rapid dispersal.

Its former genus name *Franseria* is for the Spanish physician and botanist Antonio Franseri.

Plate #54

Artemisia pychocephala — *ASTERACEAE COMPOSITAE*

Beach Sagewort — SUNFLOWER FAMILY

Monterey County, California to southern Oregon — May-Oct

Beach Sagewort is a definitely coastal plant, although other similar species grow on sandy lakeshores. It is one of the Monterey Bay region's predominant dune and beach natives. Perhaps many people would not call it a true wildflower, because of its miniature individual florets and flower clusters. Seen close up, of course this proves to be a false impression. And when seen from a distance, its ascending stems—densely dressed in foliage—may look exquisite to the nature-lover or artist: much like silver filigree, with gold-set jewels on the curving floral spikes. The complexity of the composite flower heads and perfection in feather-segmented leaf design with its delicate coloring—the soft-silky-wooly finish—take the beauty place of larger features. The silver-gray indeed serves to offset showier, more colorful wildflowers.

A perennial with somewhat woody base, it continues all summer on the more stable portions of sand dunes and beaches. It is now growing abundantly along the oceanfront at Asilomar, Pacific Grove, where the ice plants were removed.

As a last outstanding feature, the sagewort's strong, sage-like aroma must be mentioned. It is much like that of the California sagebrush *(Artemisia californica)*—so conspicuously present in the coastal scrub. But this does not make *Artemisias* true sages *(Salvia)* of the MINT FAMILY. Such aromas add to the invigorating smells of the beach scene.

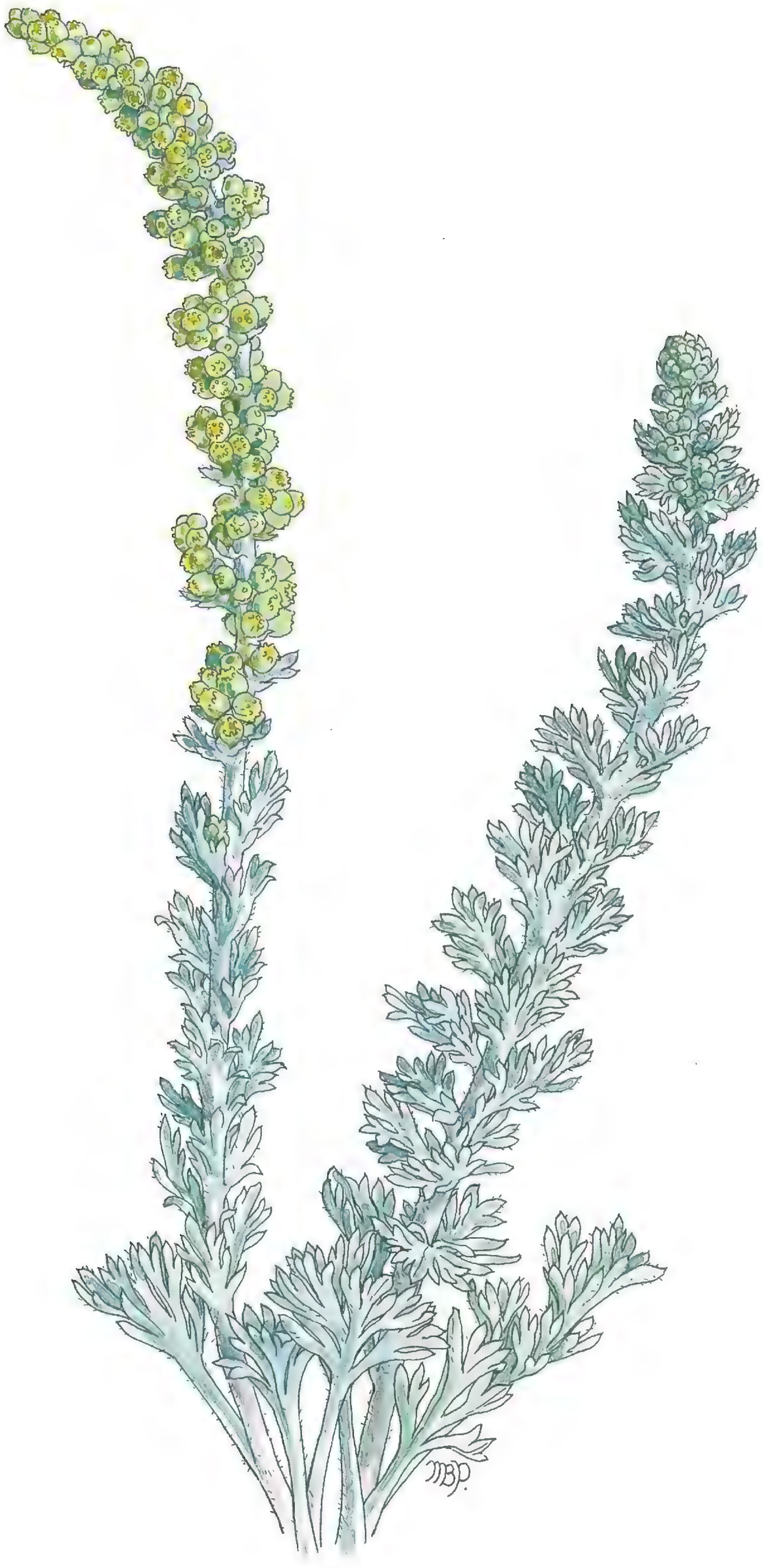

Plate #55

Hemizonia corymbosa — *ASTERACEAE COMPOSITAE*

Coast Tarweed — SUNFLOWER FAMILY

Monterey to Mendocino County, California, along the coast — May-Oct

Portraying this plant was a delightful experience, as waves of its spicy aroma filled the room. The idea of tar odor certainly doesn't do this fragrance justice—it is more like Christmas tree mixed with herbs. This comes from its glandular nature, which—along with the deep taproot—makes it weather resistant. This explains why it begins its drawn-out blooming spell in our dry season, apparently thriving on summer fog.

The intense lemon-yellow blossom heads consist of rarely less than 16, but mostly around 18 or 20 short rays (one guide states: up to 35). These end in ± three rounded tips. Disk flowers may be just as numerous, appearing in succession. The bracts around the receptacle as well as the upper linear leaves are bold green, and soft-glandular-hairy. Farther down the likewise hairy, brown stem, the leaves are pinnately divided, usually brown, or disappearing by flowering time.

The plant tends to be low and spreading, but in more sheltered habitats reaching 40", richly branching, generally from ± the middle of the main stem. Mid-July is a good time for its perfect bloom here south of the Carmel River mouth, Point Lobos, and Garrapata State Park. It grows in open meadows, often at the edge of coastal scrub, its bright yellow catching the eye. It is indeed 'California gold,' as yet common on the central and northern coast of the state. Treasure to be guarded!

Plate #56

Grindelia latifolia ssp. platyphylla — *ASTERACEAE COMPOSITAE*

Coastal Gumplant or Gumweed — SUNFLOWER FAMILY

Marin to Santa Barbara Counties, California — May-Oct

For a long time I didn't take notice of this 'other yellow composite,' until its semi-succulent nature and especially the glossy, pure white substance in the center of all its young buds with their worm-like, outward-hooked bracts, claimed my attention. No, this was not insects' eggs superimposed; it was a natural gum exuding from the buds and persisting in the disks of the freshly opened flower heads. (Is it ever sticky!) I found in my botany books that this has made the plants useful as a medicine for various ailments, including poison oak rash. (I cannot vouch for this).

This subspecies' tough, tongue-shaped, shallowly-toothed leaves clasping the smooth stem, feels much at home on the Monterey Peninsula—its type locality. In sheltered spots, even next to roads, it may form bushy clumps, two to four feet high. But on windswept dunes or coastal bluffs, it tends to spread and remain low.

When most wildflowers have given up blooming, gumplants claim the show with their bright cadmium yellow 'sun faces' of 30-45 ray flowers. This continues into late autumn, contributing spice aroma to other dry season smells and ocean spray.

The name *Grindelia* honors the Russian botanist H. Grindel.

Plate #57

Brodiaea lutea — *LILIACEAE or AMARYLLIDACEAE*

Golden Brodiaea or Pretty Face — LILY or AMARYLLIS FAMILY

San Luis Obispo to San Mateo Counties, California,

near coast, oak and pine forests — May-Aug

On its up to two feet tall, slender stem, the golden brodiaea bears what I like to describe as a 'chandelier with golden lampshades.' Each individual blossom has six segments (3 sepals, 3 petals), partially fused into a tube. These golden segments have a dark central vein each—green on the inside, and with maroon accents outside. The flowers that have finished blooming, close and turn a muted orange with reddish-purple tips.

The leaves look like long grass blades and rise straight from the bulb. There are usually one or two, often turning brown by full blooming time, because they sprouted before the floral stem, and now there may be little or no more rain.

A meadow or forest's edge covered with these golden star-flowers is a splendid sight. Often, they grow on wet or dry slopes. In certain years, they appear everywhere in masses. There are several varieties in which the color varies from straw-color to rich-yellow, tending towards light ochre. One rare variety has pale-yellow flowers that turn white to purplish. This grows in Point Lobos State Reserve. The typical yellow coastal form also occurs there—often in profusion.

Yet another variety grows on both sides of the Sierra Nevada to southern Oregon; its stems being shorter, its blossoms smaller and darker yellow. Wherever we find it, pretty-face wins our hearts with its delicate beauty, living up to its name.

Plate #58

Brodiaea (Dichelostemma) pulchella *LILIACEAE or AMARYLLIDACEAE*

Blue Dicks, wild Hyacinth, Common Brodiaea LILY or AMARYLLIS FAMILY

All of California hills, plains and coast; from Baja to Oregon Feb-May

Unlike most Brodiaeas, this showy flower has a tight floral cluster rather than an umbel, due to very short individual stalks (pedicels) of its blossoms. These are paler inside than out and consist of a clearly defined tube that opens into six parts—the three outer narrower ones being the sepals. Seen from above, a white 'triangular inside tube' terminating in six sharp points, seems to hide the six unequal stamens.

Each floral head sways atop a one-half to three-foot-long smooth, round stem, with one or two equally long or even longer, slender leaves. These appear round at the base, tightly folded toward the top, and often drying to tan 'ribbons' when the flower heads are at their peak.

Brodiaeas grow singly or in small groups, and in extra-favorable years, in great congregations. They love the shade fringe of oaks or pines. Not only California is favored by this violet beauty—*pulchella*: 'pretty, beautiful'—but Oregon, Utah and Arizona as well.

Plate #59

Collinsia heterophylla — *SCROPHULARIACEAE*

Purple Chinese Houses or Innocence — FIGWORT FAMILY

Throughout most of California, west of Sierras to Northern Baja, below 2500' — March-July

This amazing, pagoda-shaped wildflower, though not a strictly coastal species, is a must. It may cover entire hillsides of our coast ranges and other shady parts of the California landscape. The scientific name of the genus was given in honor of Z. Collings, early American botanist from Philadelphia (1764-1831). Two similar species—*C. franciscana* and *C. bartsiaefolia*—come closer to the immediate coast. But purple Chinese houses is the showy representative with its numerous, evenly-set flower whorls. For this reason, it was introduced in English gardens some 150 years ago and has delighted many flower lovers.

The generally straight stem gradually sprouts side shoots in the axils of at least one leaf pair. Each pair alternates direction with those below and above. Long-spaced slight serrations finish the margins of the fresh-yellow-green, broad-based, long and pointed leaves.

The outside of the whitish flower-tube is rosy-candy-striped, showing off its graceful curves. Its two upper lip lobes are white, its two lower visible ones rose-purple (far more brilliant than I could achieve in watercolor), leading into the white throat with rosy streaks; all four are squarish. The fifth petal is hidden underneath the lowers—in the form of a whitish boat which contains the style and four stamens. The two upper filaments are characterized by a bearded appendage each, at their base. The bottom part of the calyx is hairy.

When once again admiring a dream-like drift of Chinese houses, we know that each detail in their design is perfect for them, and that insect activity and weather conditions were just right: beauty and plenty tell the story.

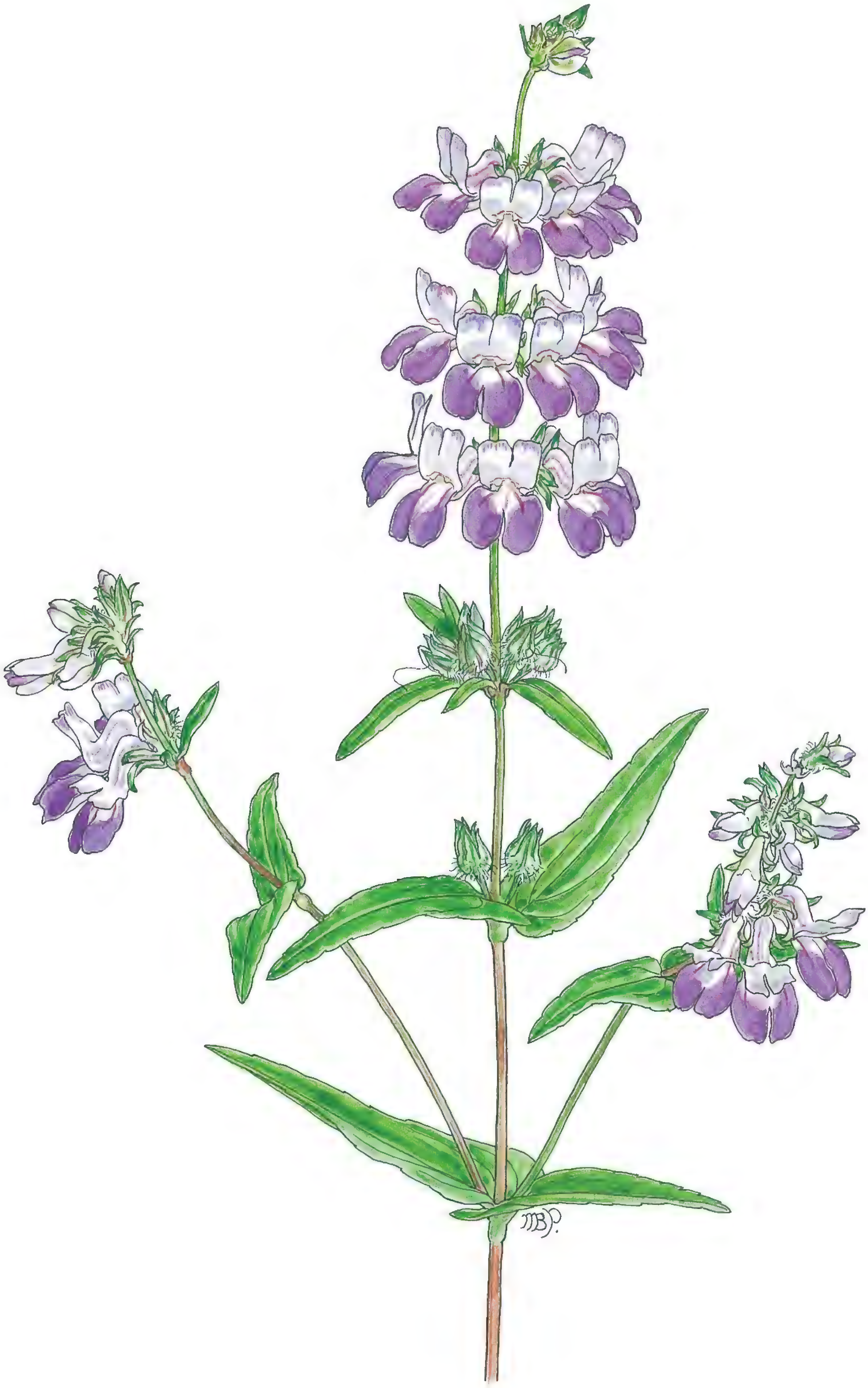

Plate #60

Meconella linearis var. pulchella — *PAPAVERACEAE*

Narrow-leaved Meconella or Carnival Poppy — POPPY FAMILY

Coast ranges from Santa Barbara, California to Oregon,

Sierra Nevada foothills, below 3300' — March-June

'Meconella' or 'Tiny Poppy' (*mekon* means 'poppy' in Greek) is the perfect name for this delicate flower swaying on a thread-fine, often up to 10" tall stem. A single plant tends to grow a large number of these, and stands of them may contribute greatly to the impressiveness of a colorful wildflower meadow. They prefer growing on sandy flats or slopes.

This particular form—the 'carnival variety'—has the three inner (narrower) petals cream color, with a yellow fleck at their base, and the outer three (wider) petals nearly solid lemon-yellow. ±20 stamens with flattish filaments curve upwards around the three-valved green ovary with a pale three-lobed pistil. The three small sepals are green or tannish, smooth with perhaps one or two hairs. They drop off when the flower first opens.

Wide-spaced hairs pointing in various directions spread ± invisibly along each slender stem, while the narrow, grass-like, opposite leaves at and just above its base bear an occasional hair along their margin, or none.

Like a concerned fairy parent, each blossom closes its petals around its rapidly swelling ovary as soon as the light wanes and night-chill sets in. Each new morning, it opens them wide again until they drop off at last. The three-parted capsule of elegant vase-shape—at first with a few stamens yet around it—remains atop the thin, leafless stem.

This poppy is closely related to the Creamcup *(Platystemon californicus)*, a much hairier plant with very flat filaments.

To my surprise, clumps of meconellas persisted on a steep slope of Garzas Canyon (Garland Park, Carmel Valley), which had become exposed to the sun much of the day during the dry month of May—April likewise having brought no rain. A tough annual!

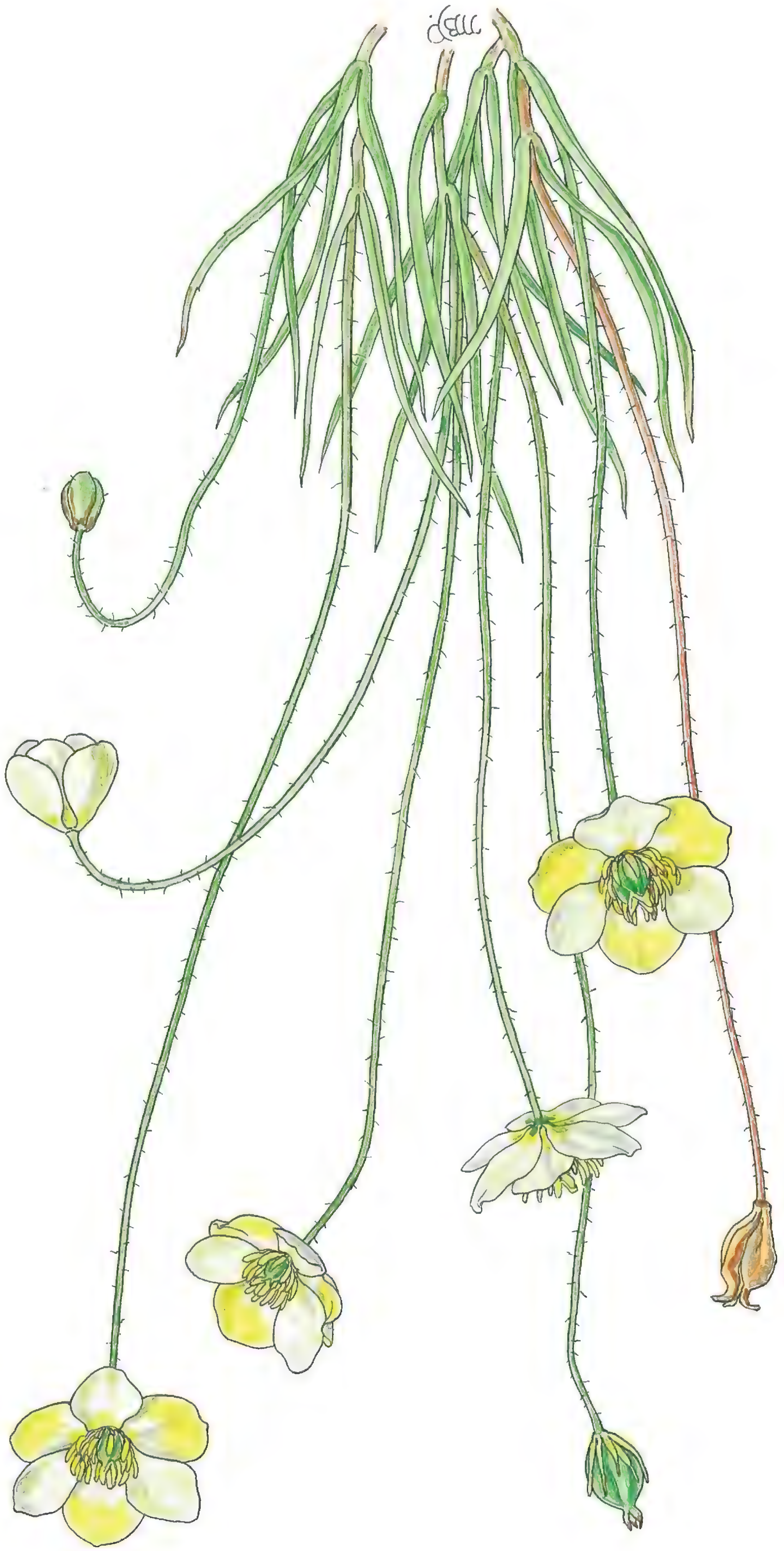

Plate #61

Calochortus luteus — *LILIACEAE*

Yellow Mariposa Lily or Gold Nuggets — LILY FAMILY

Coast Ranges: Santa Barbara to Mendocino Counties, California,

Sierra Nevada, below 2000' — April-June

'Butterfly Tulip' is another name describing the exquisite form of many members of this genus. This particular species' intense lemon-yellow makes it an eye-catcher, and its tulip shape is striking. Its preference is for open meadows bordering oak or conifer forests, somewhat above and away from the immediate coast. Year after year, I return to glades and slopes of our Coast Range, in Garland Park, Carmel Valley (ten miles inland, at ±1200') to admire these flowers.

Slender, sometimes branching stems with short, linear leaves bear the blooms—one to each branch. The three striate calyx lobes follow the tulip-base profile upward, then curve backward, often as spirals. The three broad petals are marked with reddish-brown tracery and sometimes a pronounced central blotch—halfway down from their upper margin. These markings vary greatly. At the base, each petal has a gland with an orange 'half moon' and fuzzy hairs above it.

Each plant has one long grass-like basal leaf that dries up quickly in the sun. But the blossoms persist for many days, half-closing in the evenings.

The California Indians found *Calochortus* bulbs a nutritious food—oven-baked. Fortunately, our present civilization provides us with so many varieties of natural foods that we won't easily be tempted to uproot such showy wildflowers to eat their bulbs. Instead, they must be protected. Luckily, the yellow mariposa lily is yet a widespread species, covering the meadows with its luminous color. Long may it live!

The Greek name says it: *'kalos'*—beautiful; *'chortos'*—grass, the grass-like leaves…

Plate #62

Madia elegans (possibly a ssp. of lower elevation) *ASTERACEAE*

Elegant Madia or Tarweed, Gumweed SUNFLOWER FAMILY

Throughout California, western Oregon to southwestern Washington,

Coast Ranges below 4000' March-Nov

Since there are the genera *Holocarpha, Hemizonia* (55) and *Madia*—all three called by common name Tarweeds, including their numerous species and subspecies—I chose the Elegant Tarweed or Gumweed. Indeed it is showy, but definitely gummy because of innumerable glandular hairs covering all green parts of the plant. Its aroma is not unpleasant, but not nearly as strong and delicious—Christmas tree-like—as that of our typical coast tarweed (55). Likewise, it should not be confused with *Grindelia latifolia*, the coastal gumplant (56), which is smooth throughout, also with bright-yellow composite heads with a white gummy mass on the budding 'sunflowers.'

This Madia's deeply three-lobed ray flowers—±13 to over 22 of them—may be plain lemon-yellow, have a touch of yolk-yellow or orange at their base, or a decorative, ± tulip-shaped, deep-maroon or ocher-colored blotch there. These decorations make a pretty circular design around the diskflower center. The bracts of the unopened flower heads are slender; they form what looks like a slightly flattened, rich-green globe on each longish floral stem or branch.

The alternate leaves, spaced far apart along the stem, are short and linear, the lower ones rarely over one and a half inches long. There may be a basal cluster, but it is often dried up.

This gorgeous wildflower is common. It is astounding how lush and tall it grows, popping into rich bloom during the dry summer time. For example, it covers steep grassy slopes of the higher parts of Garzas Canyon, Carmel Valley (11 miles inland). But we have seen it at lower elevations and closer to the coast as well.

'Madia & Company' have their built-in defense against getting picked: the slightest contact made with a stem or leaf gums up our fingers; we'd rather continue our hiking to where they grow, admiring them where they look so spectacular, contrasted by golden grass, drying vines, maybe magenta clarkias (16) and red California fuchsias (64). At home in a vase, they would soon lose their luster—like true wild flowers that cannot be 'domesticated.'

Plate #63

Erysimum capitatum — *BRASSICACEAE CRUCIFERAE*

Common Douglas Wallflower — MUSTARD FAMILY

California and Oregon to British Columbia, Coast Ranges,
many plant communities west of the mountains, below 8000' — March-July

Although this wallflower mostly grows away from the ocean, it must be included here—simply because of its beauty and for comparison with Menzies' Wallflower (9), the typical dune species of the Monterey Peninsula. A biannual with course, erect stem up to two and one-half feet tall, the Douglas wallflower is crowned with a brilliant orange flower head. Its numerous four-petaled flowers sometimes occur in yolk-yellow or even maroon to rose-purplish. But orange is by far more common. The long, thin capsules are four-angled and up to four inches long.

The plant chooses steep slopes or canyon walls, either rocky and dry, or facing north where moisture lasts, yet sun penetrates part-time. It forms open groups. It may grow branches, each with its own flower head. The alternate narrow leaves reach out ± horizontally. These have well-spaced sharp teeth along their margins, which tend to be close to each other, because of each leaf's folded or trough-like shape. Short hairs lying flat, cover particularly the upper—rather inner—leaf surface.

The cluster of basal leaves is mostly dried up by blooming time. It consists of lance-shaped blades like those on the stem, except that they open up from long, narrow petioles. These leaves are up to seven inches long when fresh. They are closely whorled around the bottom of the main stem.

Since many puzzling features add to the great variability of this species, botanists are still into microscopic research, for example, regarding the two-or-three-way branching of the hairs on the upper side of the basal leaves. This seems to be typical for southern plants.

Whatever the outcome, these orange wallflowers can be a delightful surprise to us nature walkers.

Plate #64

Epilobium canum, Zauschneria californica *ONAGRACEAE*

California Fuchsia or Hummingbirds' Trumpet EVENING PRIMROSE FAMILY

Southern California to southwestern Oregon, Mexico Aug-Feb

One wonders why some plants start flowering during the driest season of the year. The California fuchsia that comes in many varieties, is one of these. Not only drought but rocky places make it comfortable, as its abundant orange-red to scarlet flower trumpets proclaim.

Their eight red-filamented stamens eventually protrude well beyond the four two-lobed, spreading petals—even farther does the style. The flower tube is globose just above the inferior, longish ovary, then widens and constricts where the four sepals separate. The fruit is a slender red-streaked capsule.

The hills of Monterey County, mostly close to the ocean, are the perfect home of this impressive wildflower. It abounds in wooded settings as much as in those arid spots. I've found it at the edge of ocean cliffs. This particular variety greeted us near the trail to Devil's Mountain above Botcher's Gap, on a dry, sunny slope overlooking the sea—a profusion of closely-grouped, single, short-haired stalks, about one foot high. No branches as yet, only the small boat-shaped leaves, slim bottle-like pods in their axils, and trumpet clusters extending typically to one side—offering nectar and tiny insects to their choicest pollinators, the hummingbirds.

No better place, I thought, to contemplate all this natural beauty: the fully-alive floral display amid dried-up shrubs; the immensity of earth, sea and sky; the winds bringing relief—all parts fitting and functioning. Everything learning to adapt. Flowers have an original favorite home, yet their wind-, fur-, or bird-borne seeds emigrate.

Dr. M. Zauschner, a Czech botanist and professor at the University of Prague, first described this species, collected in California. Early Californians brewed tea from its leaves to administer to injuries—therefore this wild fuchsia plant is called 'balsamea.' Indeed a suitable, soothing name.

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"I strive for directness—the freshness, luminosity and feel of life in its various moods."

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Mary has traveled throughout the western U.S. and Europe with her artist husband, painting the always inspiring world of nature. Her paintings have been shown in international exhibitions and are in the collections of the University of California, Berkeley, and the Hunt Institute for Botanical Documentation, Pittsburgh, Pennsylvania. Her work is in private collections here and in Europe.

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